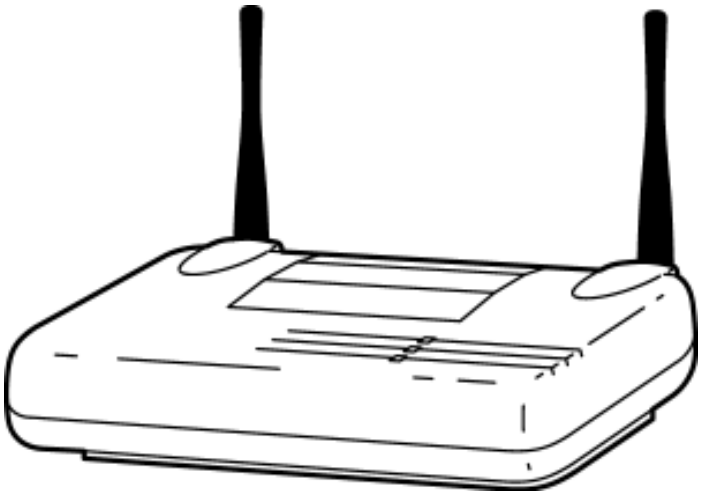
AP4800B Series
User's Guide
Wireless Access Point

Products supported:
AP4810B, AP4820B, AP4821B,
AP4822B, AP4823B

DOC-710-005310-A0



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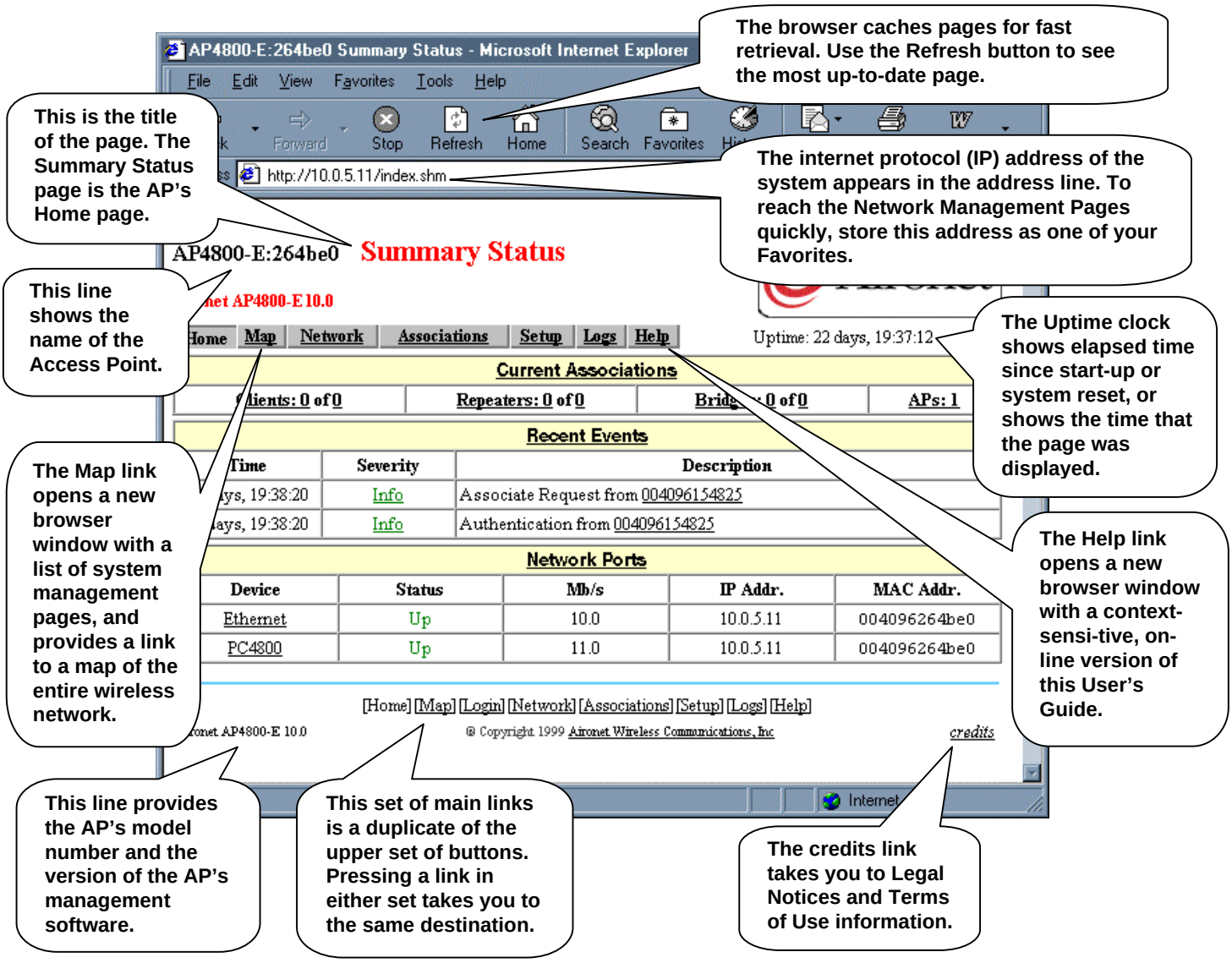
Introduction

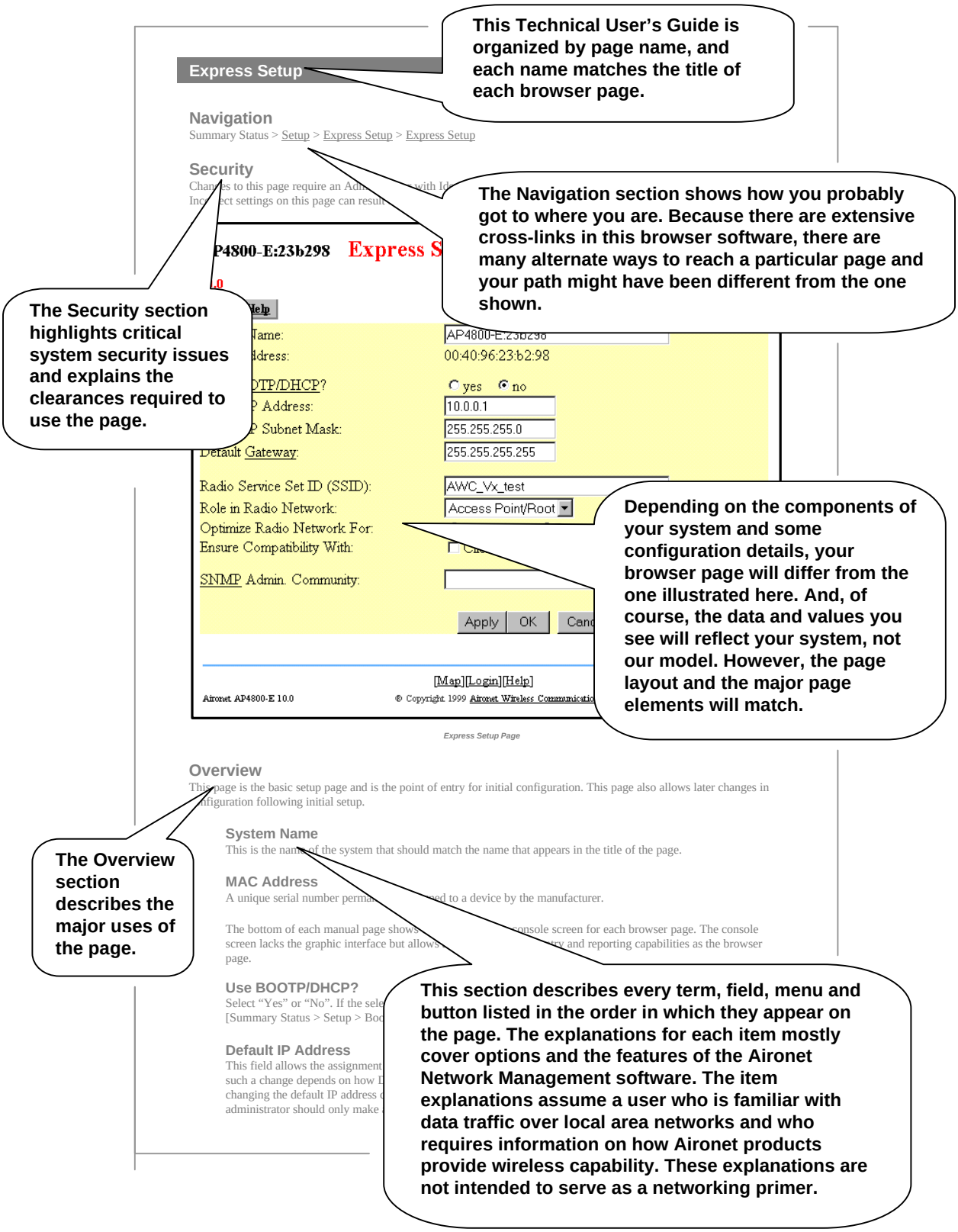
Congratulations on your purchase of Aironet's 4800B Series Access Point (AP).

You'll soon have many reasons to be very satisfied with your decision. We think one of the most important things you will appreciate is our unique web browser Network Management System. If you have learned to make your way around the internet using a web browser, you will quickly be managing your Aironet wireless network with the same ease and simplicity.

The image below is the Summary Status page that serves as the "Home" page for this browser software. The comments in the white balloons point out aids and features that you will find common to other web pages in the Network Management System.


The browser caches pages for fast retrieval. Use the Refresh button to see the most up-to-date page.
This is the title of the page. The Summary Status page is the AP's Home page.
The internet protocol (IP) address of the system appears in the address line. To reach the Network Management Pages quickly, store this address as one of your Favorites.
This line shows the name of the Access Point.
The Uptime clock shows elapsed time since start-up or system reset, or shows the time that the page was displayed.
The Map link opens a new browser window with a list of system management pages, and provides a link to a map of the entire wireless network.
The Help link opens a new browser window with a context-sensi-tive, on-line version of this User's Guide.
This line provides the AP's model number and the version of the AP's management software.
This set of main links is a duplicate of the upper set of buttons. Pressing a link in either set takes you to the same destination.
The credits link takes you to Legal Notices and Terms of Use information.
AP4800-E:264be0 Summary Status - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Stop Refresh Home Search Favorites
http://10.0.5.11/index.shm
AP4800-E:264be0
Summary Status
Home Map Network Associations Setup Logs Help
Uptime: 22 days, 19:37:12
Current Associations
Repeaters: 0 of 0
APs: 1
Recent Events
Time
Severity
Description
Info
Associate Request from 004096154825
Info
Authentication from 004096154825
Network Ports
Device
Status
Mb/s
IP Addr.
MAC Addr.
Ethernet
Up
10.0
10.0.5.11
004096264be0
PC4800
Up
11.0
10.0.5.11
004096264be0
[Home] [Map] [Login] [Network] [Associations] [Setup] [Logs] [Help]
® Copyright 1999 Aironet Wireless Communications, Inc.
credits
Internet

How To Use This Technical User's Guide


This Technical User's Guide is organized by page name, and each name matches the title of each browser page.
Express Setup
Navigation
Summary Status > Setup > Express Setup > Express Setup
Security
The Navigation section shows how you probably got to where you are. Because there are extensive cross-links in this browser software, there are many alternate ways to reach a particular page and your path might have been different from the one shown.
The Security section highlights critical system security issues and explains the clearances required to use the page.
00:40:96:23:b2:98
yes
no
10.0.0.1
255.255.255.0
255.255.255.255
AWC_Vx_test
Access Point/Root
Apply
OK
[Map][Login][Help]
Depending on the components of your system and some configuration details, your browser page will differ from the one illustrated here. And, of course, the data and values you see will reflect your system, not our model. However, the page layout and the major page elements will match.
Express Setup Page
Overview
This page is the basic setup page and is the point of entry for initial configuration. This page also allows later changes in configuration following initial setup.
System Name
MAC Address
The bottom of each manual page shows
console screen for each browser page. The console screen lacks the graphic interface but allows
try and reporting capabilities as the browser page.
Use BOOTP/DHCP?
Default IP Address
The Overview section describes the major uses of the page.
This section describes every term, field, menu and button listed in the order in which they appear on the page. The explanations for each item mostly cover options and the features of the Aironet Network Management software. The item explanations assume a user who is familiar with data traffic over local area networks and who requires information on how Aironet products provide wireless capability. These explanations are not intended to serve as a networking primer.

Quick-Start Setup

Before you begin Installation

Before setting up your Access Point, ask your network system administrator for the following information:

- An **IP (Internet Protocol) address** for the Access Point. Each station or device on your network must have a unique IP address. The IP address should resemble this example: 10.0.0.1
- The **MAC address** from the label on the bottom of the Access Point. The MAC address should resemble this example: 0040961234BC

Note: You should configure the Access Point before mounting it on a pole or a ceiling. Some configuration steps, such as communicating with the AP through a serial cable, may be difficult if the AP is inaccessible.

Installation Requirements

Before you begin installation, make sure that you have the following items:

- The Aironet 4800B Series Access Point
- The Access Point power supply
- The Aironet 4800 Series CD

If any of these items are missing from the Aironet 4800B Series Access Point package, contact your Access Point supplier.

You will also need:

- A computer that is connected to the same network as the Access Point
- A nine-pin serial cable (if you use a DHCP server)

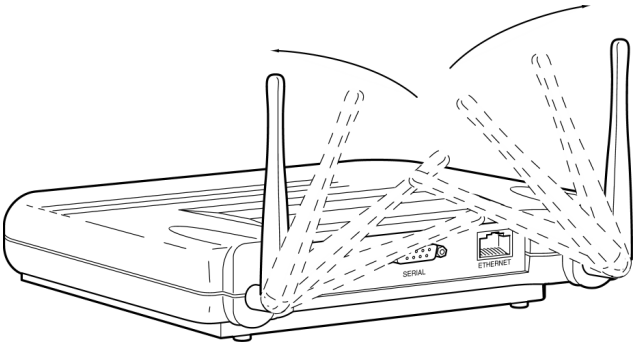
Installing the Aironet 4800B Series Access Point

Follow the instructions below to install the Aironet 4800B Series Access Point.

1. Adjust the antennas.*

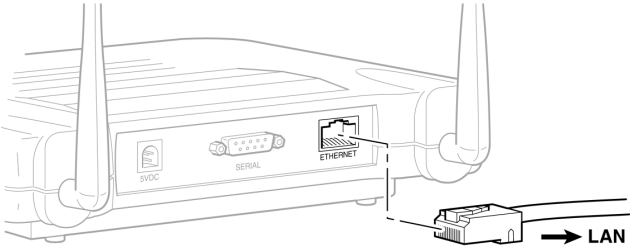
For maximum range, make sure the antennas on your Access Point point straight up or straight down, no matter where your Access Point is mounted.

If you keep your Access Point on a table or a desk, turn the antennas so they point straight up. If you mount your Access Point on a wall or a pole, turn the antennas so they are vertical, even though the Access Point is on its side. If you mount your Access Point on the ceiling, turn the antennas so they point straight down.



2. Connect the Ethernet cable from your wired LAN to your Access Point.

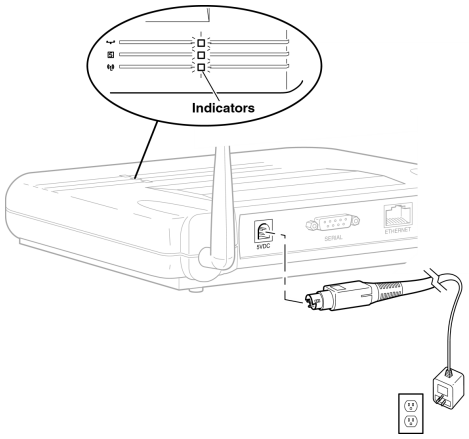
Make sure the AP is not powered up when you connect your network cable.



* The AP4810B has one antenna. The AP4822B and AP4823B have reverse TNC connectors so you can attach a wide range of antennas.

3. Connect the power pack.

Plug the Power Pack into a wall outlet or a power strip, and plug the connector into the power receptacle on the back of the AP.

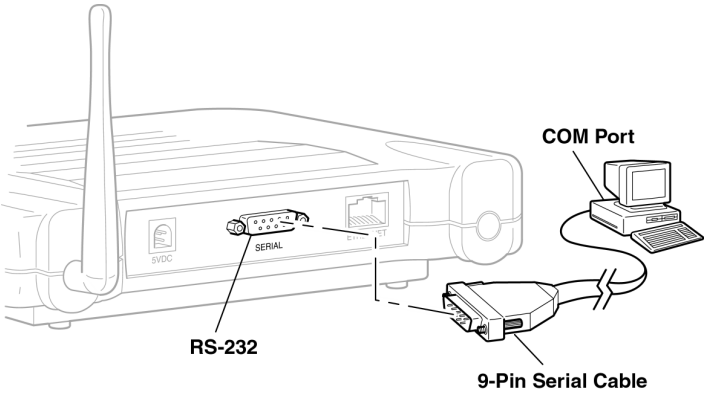


All three indicators on top of the access point will slowly blink amber, red, and then green in sequence. During normal operation, the indicators will blink green. If the indicators display a solid color without blinking, see the Top Panel Indicator Descriptions in the User Guide.

Note: If you are **not** using a DHCP server, skip to step 9.

4. If you have a DHCP server, the server automatically assigns an IP address to the Access Point when you connect it to your network. To use the Access Point's browser-based management system, you need to find out the assigned IP address.

   Use a 9-pin serial cable to connect the COM 1 or 2 port on your computer to the RS-232 on the back of the access point. After you find the assigned IP address, you can remove this cable. You might need the cable again if you need to update the AP's configuration in the future.



5. Open the HyperTerminal program* on the workstation attached to the Access Point. This window appears:

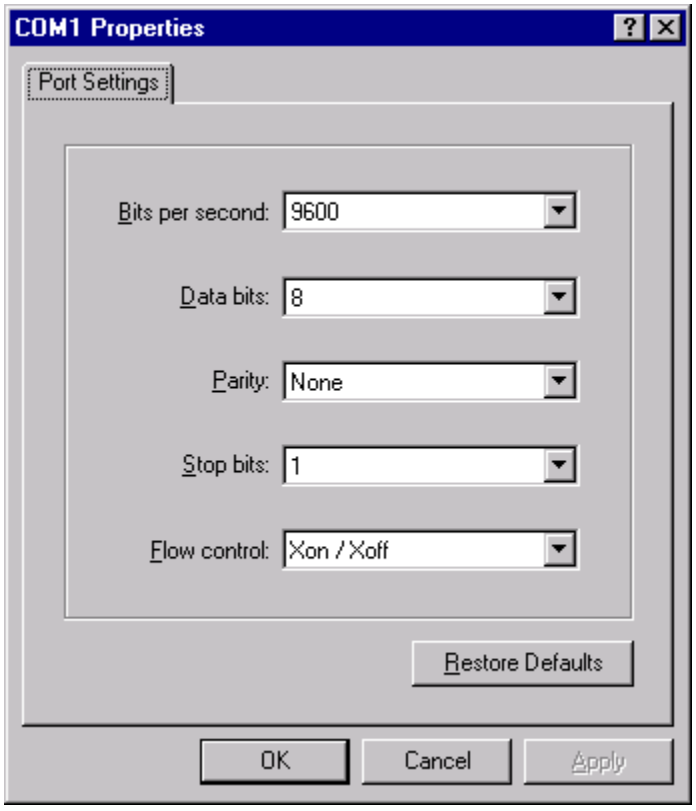
Type a name for the connection and click OK.

* These instructions describe HyperTerminal, but you can use any terminal-emulation program to communicate with the Access Point.

6. The Connect To window appears:

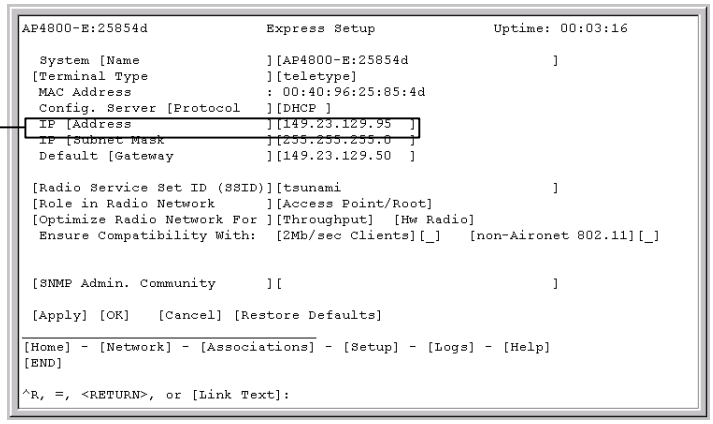
Choose the port on your computer to which the serial cable is connected. Click OK.

7. The port settings window appears:



Set Bits per second (baud rate) to 9600, Data bits to 8, Parity to None, Stop bits to 1, and Flow control to Xon/Xoff. Click OK.

8. The Express Setup screen appears in the HyperTerminal window:


AP4800-E:25854d Express Setup Uptime: 00:03:16
System [Name][AP4800-E:25854d]
[Terminal Type][teletype]
MAC Address : 00:40:96:25:85:4d
Config. Server [Protocol][DHCP]
IP [Address][149.23.129.95]
IP [Subnet Mask][255.255.255.0]
Default [Gateway][149.23.129.50]
[Radio Service Set ID (SSID)][tsunami]
[Role in Radio Network][Access Point/Root]
[Optimize Radio Network For][Throughput] [Hw Radio]
Ensure Compatibility With: [2Mb/sec Clients][_] [non-Aironet 802.11][_]
[SNMP Admin. Community][ ]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
^R, =, <RETURN>, or [Link Text]:

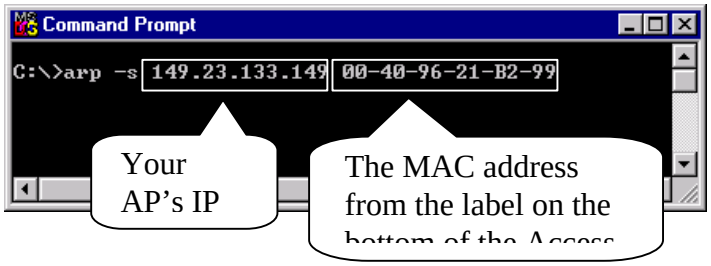
Make a note of the IP address. In this example, the assigned IP address is 149.23.129.95.

Exit HyperTerminal.

Note: If you have a DHCP server, skip to step 10. If you have a DHCP server, your Access Point's IP address is assigned automatically, and cannot be overwritten with the "arp" command described in step 9.

9. Assign an IP address to your Access Point with the "arp" command. Follow these steps:

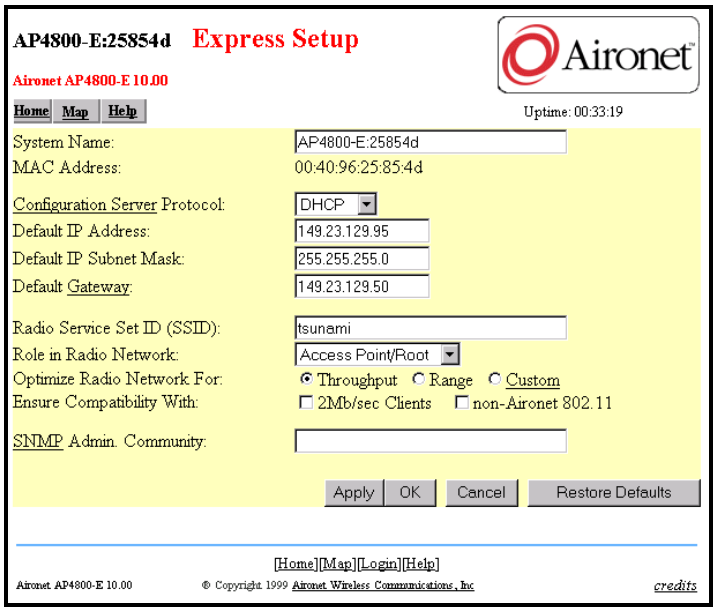
- Open a Command Prompt window (usually located on your Start menu under Programs).
- Type **arp –s** followed by the IP address from your system administrator, followed by the MAC address from the label on the bottom of the Access Point. Your complete "arp" command might look like the entry below.
- Press Enter to set the IP address of your Access Point.



Note: Windows 95 may require you to include your computer's IP address in the "arp" command immediately following the AP's MAC address. Type arp in the Command Prompt window and press Enter to check the proper command format for your version of Windows.

10. Browse to your Access Point's Management Pages.

- Open your internet browser (Microsoft Explorer or Netscape Navigator, for example).
- Type your Access Point's IP address on the browser's address line and press Enter. Your Access Point's Express Setup Management Screen appears.



Your Access Point is up and running. Consult the User Guide for a description of all the Access Point's system management functions.

Note: If you have trouble browsing to your Access Point, you may need to use a terminal emulator to assign your AP's IP Address and Default Gateway. Follow the steps below to assign these settings through a terminal emulator.

Assigning an IP Address and Default Gateway with the Terminal Emulator

If you need to use the terminal emulator to assign an IP address and Default Gateway to the AP, follow these steps:

- Complete steps 4 through 8 in the installation section above.
- At the Express Setup screen, type address and press Enter.
- Type the IP address provided by your network system administrator and press Enter.
- Type gateway and press Enter.
- Type the Default Gateway provided by your network system administrator and press Enter.
- Type apply and press Enter.

Exit the terminal emulator.

Getting Help

Use the following information to contact the Aironet Technical Support group:

Telephone: (330) 664-7903
Fax: (330) 664-7990
e-mail: techsupp@aironet.com

For additional product information and technical support, including the capability to download new firmware and drivers, use the Aironet web site at:

http://www.aironet.com

Common Tasks

The table below lists some of the tasks you may need to carry out when setting up or adjusting your Access Point. The Task column lists the tasks, the Page column lists the system management pages you use for each task, and the Link Path column contains the links you can follow to reach these pages.

Task	Page	Link Path
Add to the list of users authorized to view and use the Network Management pages	User Information	Summary Status > Setup > Services/Security > User Information > User Information
Enable system management security	User Manager Setup	Summary Status > Setup > Services/Security > Security Setup > User Manager > User Manager Setup
Enter or change the AP name	Express Setup	Summary Status > Setup > Express Setup
Enter or change the AP's IP address	Express Setup	Summary Status > Setup > Express Setup
Enter or change the AP's SSID	Express Setup	Summary Status > Setup > Express Setup
Enter or change an SNMP community name	Express Setup Or User Information	Summary Status > Setup > Express Setup or Summary Status > Setup > Services/Security > User Information > User Information
Tune radio performance	Express Setup	Summary Status > Setup > Express Setup
Update system firmware	Aironet Services Setup	Summary Status > Setup > Services/Aironet Services > Fully Update Firmware via Browser
Check Access Point and client card associations	Association Table	Summary Status > Associations
Perform radio link tests with devices associated with the AP	Station	Summary Status > Associations > MAC address of an associated device > Link Test button
Perform an IP "ping" to any device on the network	Station	Summary Status > Associations > MAC address of any device > Ping button
View current radio firmware versions	PC4800 Port	Summary Status > PC4800 > Detailed Config. button > Apply button
Manually set Ethernet port speed	Ethernet Hardware	Summary Status > Ethernet > Set Properties
Change AP role from root device to Repeater	Express Setup	Summary Status > Setup > Express Setup

How do I…?

1. How do I know that a client is connected to my Access Point?

If the green light on your Aironet client card blinks slowly and steadily (about once every two seconds), it's communicating with an Access Point. Likewise, if the status light (the middle LED) on your Access Point blinks green slowly (about every half-second), it's communicating with a client. To check which Access Point your client is talking to, open the WinDGS utility that you installed with your Aironet client card. A message at the bottom left of the window tells you the name of the Access Point your card is communicating with.

To see all the clients that are connected to your Access Point, browse to your Access Point's management pages with your web browser (type your Access Point's IP address in the browser's address line and press Enter). Then select the Associations link on the *Summary Status* page. All the clients connected to your Access Point appear on the *Association Table* page.

2. How do I make my Access Point more secure?

You can protect data moving to and from your AP in several ways:

- Enabling WEP (Wired Equivalent Protection) makes your wireless data communications as secure as your wired LAN. Browse to your Access Point's *Setup* page with your web browser (type your Access Point's IP address in the browser's address line and press Enter). Select the Setup link from the *Summary Status* page, and then select the Security link. Next, click Radio Data Encryption (WEP). The *PC4800 Data Encryption* page appears. Type a WEP key in one of the WEP key entry fields. Type ten hexadecimal characters (and numeric character 0 through 9 and any letter character a through f, either upper-case or lower-case) for a 40-bit WEP key and 26 hexadecimal characters for a 128-bit WEP key. Select the WEP level for the key, 40 or 128, from the pull-down menu beside the entry field. Select the button to the left of the key to transmit data using that key. In the Use of Data Encryption by Stations is pull-down menu, select Full Encryption. Next, click Apply or OK. WEP is enabled on the AP, and only stations using the WEP key you set will be allowed to communicate with the AP.

- You can limit communication with your AP to clients using the AP's SSID (Service Set Identifier). Browse to your Access Point's *Setup* page with your web browser. Select the PC4800 Hardware link under Network Ports at the bottom of the page. The *PC4800 Hardware* page appears. Select no for the Allow "Broadcast" SSID to Associate? option.

- You can protect your Access Point's management pages with its *Security Setup* feature. Browse to your Access Point's *Setup* page with your web browser. Select the Setup link from the *Summary Status* page, and then select the Security link. Next, click User Information. Click Add New User, and fill in the user name, password, and capabilities fields in the *User Management* window. To enable Security, click back to the *Security Setup* page, click User Manager, and click the Enabled button.

- You can also tighten your Access Point's security by disabling SNMP on the *SNMP Setup* page, and disabling telnet access on the *Console/Telnet* page.

3. How do I set up my AP so an SNMP manager can use it?

Browse to the *Express Setup* page (*Summary Status* > *Setup* > *Express Setup*). Type an SNMP Administrator Community name in the SNMP Admin. Community field. Click Apply or OK. The SNMP Administrator can now browse to the management pages from an SNMP station.

4. How do I telnet to my Access Point?

If you know your Access Point's IP address, you can access its management pages through telnet. Open your telnet software and provide your Access Point's IP address. (Your Access Point's default IP address is 10.0.0.1. If a different IP address has been assigned to your Access Point, you can find out what it is by connecting to your Access Point through HyperTerminal; see the instructions below.) Only one console session (telnet or HyperTerminal) can be connected to the Access Point at any time.

5. How do I connect to my Access Point using a browser?

If you know your Access Point's IP address, you can open its management system with your web browser. (Your Access Point's default IP address is 10.0.0.1. If a different IP address has been assigned to your Access Point, you can find out what it is by connecting to your Access Point through HyperTerminal; see the instructions below.)

Just type your Access Point's IP address in the browser's address line and press Enter. If your management pages have never been changed, the *Express Setup* page appears. If you've already made changes to the management pages, the *Summary Status* page appears.

6. How do I connect to my Access Point using Hyperterminal?

Connect a nine-pin, straight-through serial cable to your computer's Com-1 or Com-2 port, and connect the other end to the RS-232 port on your Access Point. Open HyperTerminal and create a new connection with these settings: Bits per second (Baud rate) = 9600; Data bits = 8; Parity = none; Stop bits = 1; Flow control = Xon/Xoff. You can change these settings on the AP Management system's *Console/Telnet* page (*Summary Status* > *Setup* > *Console/Telnet*). Baud rate, for example, can be set to 115,200.

If the screen is blank when HyperTerminal is connected, press the equal sign (=). If your management pages have never been changed, the *Express Setup* page appears. If you've already made changes to the management pages, the *Summary Status* page appears.

7. How do I test my Access Point's range?

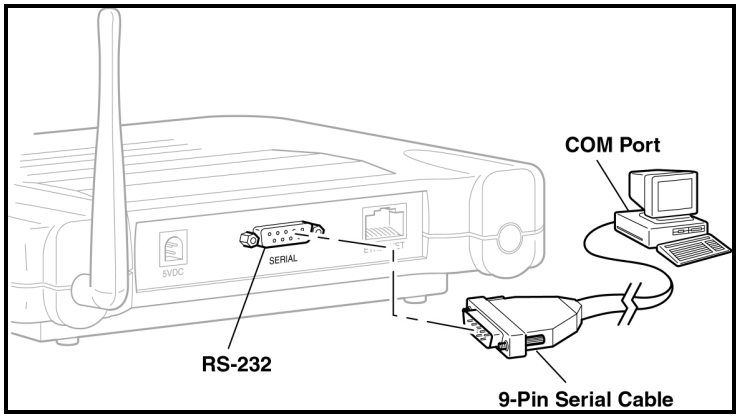
Open the WinDGS utility and select Site Survey from the Commands menu. The Site Survey window appears, providing real-time displays of signal strength, signal quality, and link speed. Carry your computer away from your Access Point, and check the site survey displays at various points in your facility. Use this technique to draw a map of your Access Point coverage.

You can also use the AP's management system to conduct a link test on a client. Browse to the *Association Table* page (*Summary Status* > *Associations* > *Association Table*). Click the MAC address link for a client associated to the AP. When the *Station* page appears for the client, click the Link Test button to see detailed communication statistics with the client.

Using the Console to Adjust Your Access Point (optional)

You can set up your Access Point through a terminal emulation program instead of through your browser. Although using your browser to access the System Management pages is much simpler than using a terminal emulator, you may wish to use a program such as Microsoft's HyperTerminal. Follow these steps:

1. Connect a nine-pin, straight-through cable from your computer's Com-1 or Com-2 serial port to the RS-232 port on the Access Point.



2. Open a terminal emulator connection using these settings as a baseline:
   Bits per second (baud rate): **9600**
   Data bits: **8**
   Parity: **none**
   Stop bits: **1**
   Flow control: **Xon/Xoff**

   Type = or press Enter to display the Access Point's Express Setup or Summary Status screen.

```
AP4800-E:23b298              Express Setup              Uptime: 20:21:51

  System [Name               ][AP4800-E:23b298                 ]
 [Terminal Type              ][teletype]
  MAC Address                : 00:40:96:25:85:4d
  Config. Server [Protocol   ][DHCP]
  IP [Address                ][10.0.0.1        ]
  IP [Subnet Mask            ][255.255.255.0   ]
  Default [Gateway           ][255.255.255.255]

 [Radio Service Set ID (SSID)][tsunami                        ]
 [Role in Radio Network      ][Access Point/Root]
 [Optimize Radio Network For ][Throughput]  [Hw R
 nsure Compatibility With: [2Mb/sec Clients][_]

 [SNMP Admin. Community      ][

 [Apply] [OK]   [Cancel] [Restore Defaults]

[Home] - [Network] - [Associations] - [Setup] - [Logs] -

:Back, ^R, =, <RETURN>, or [Link Text]:
```

Settings appear on the left. Type the first few letters of a bracketed setting name to select it. To select IP Address, for example, you would type ad.

Setting values appear on the right.

Commands and links to other system management pages appear at the bottom. Type the first few letters of a bracketed command or link to select it.

Type `apply` or `OK` and press Enter to apply new settings.

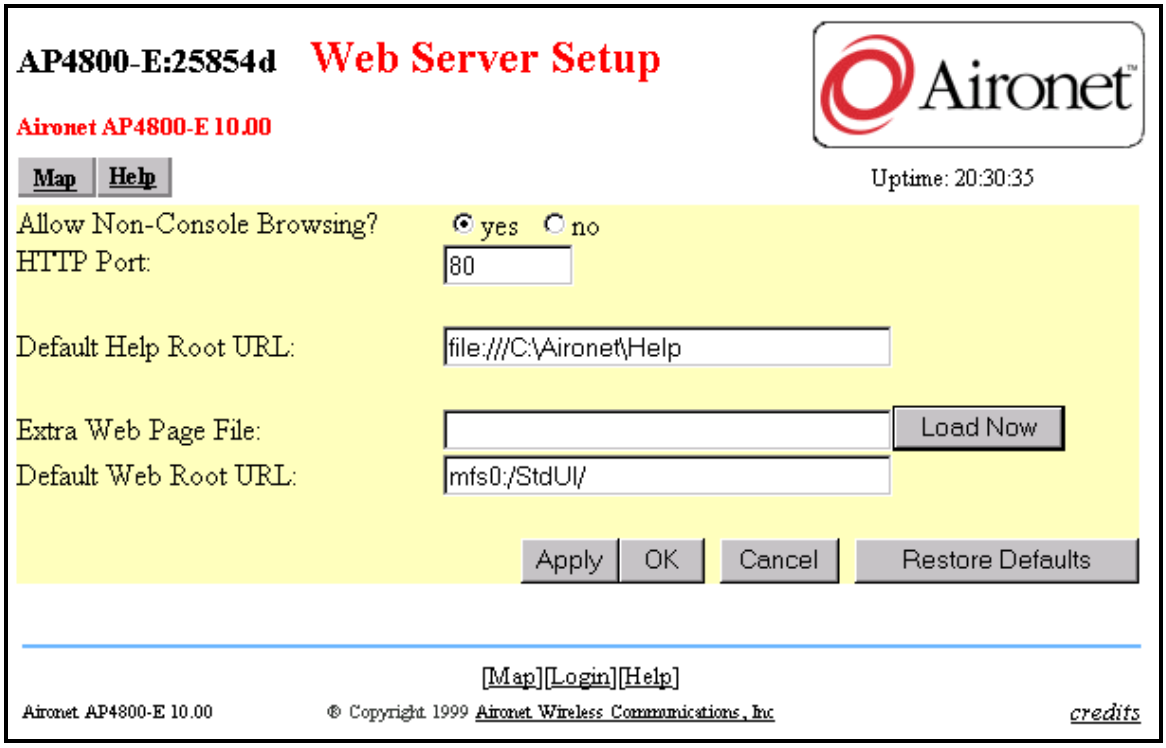
Your typing appears on the command line.

Setting up your Browser for the Help Files

To make sure the Help files for your Access Point are accessible to any web browser, type this location in the Default Help Root URL setting on the Web Server Setup page (Summary Status > Setup > Services/Web Server > Web Server Setup):

file:///C:\Aironet\Help

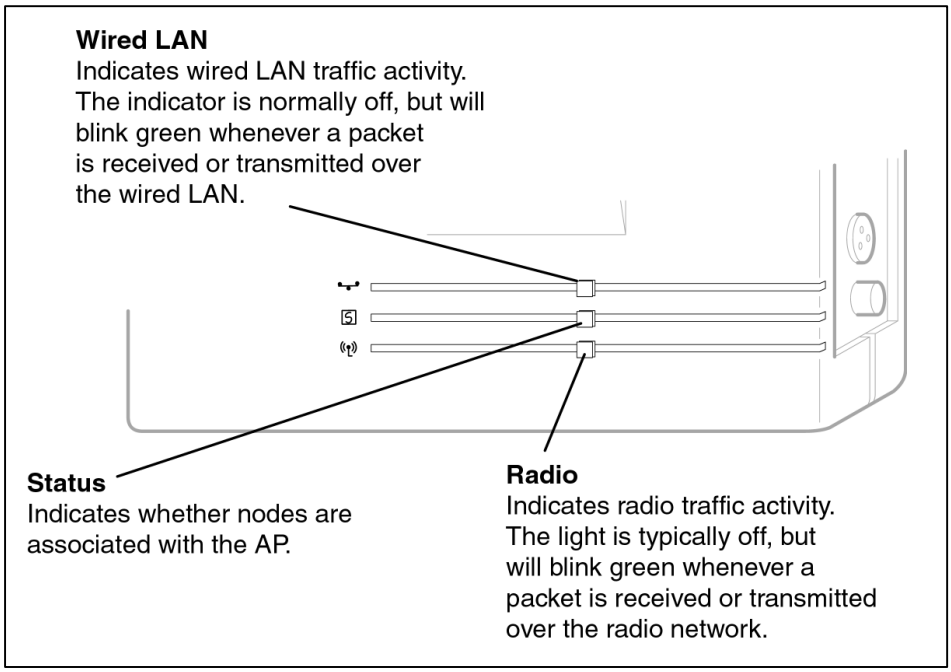
(Although C is specified in the example above, you can use any drive letter on your system. Be sure to copy the Help pages from the Aironet system CD to the drive and location you specify.)



Default Help Root URL Setting on Web Server Setup page

LED Indicators

The three LED indicators on top of the Access Point show system activity and status.


Wired LAN
Indicates wired LAN traffic activity. The indicator is normally off, but will blink green whenever a packet is received or transmitted over the wired LAN.
Status
Indicates whether nodes are associated with the AP.
Radio
Indicates radio traffic activity. The light is typically off, but will blink green whenever a packet is received or transmitted over the radio network.

LED Indicator Descriptions

The table below describes information provided by the LEDs.

Message Classification	Wired LAN LED	Status LED	Radio LED	Description
Operational		Blinking green every one-eighth second		One or more nodes associated
		Blinking green every half-second		No nodes associated
			Blinking green	Transmitting/ receiving radio packets
	Blinking green			Transmitting/ receiving packets over wired LAN
Error/Warning	Blinking red		Blinking red	Packet was lost
			Blinking amber	Maximum retries/buffer full occurred on radio
	Blinking amber			Transmitting/ receiving errors over wired LAN

Message Classification	Wired LAN LED	Status LED	Radio LED	Description
Error/Warning		Blinking amber		General warning; check the information logs
Failure	Red	Red	Red	Software failure
	Off	Red	Amber	DRAM test failed
	Off	Amber	Amber	System FLASH ID failed
Firmware Upgrade via Boot Block		Red		Flashing the firmware
Error	Amber	Amber	Amber	Motherboard configuration error
		Red		DRAM configuration error
	Amber	Red	Amber	DRAM configuration error after a motherboard configuration error
	Red	Red		DRAM fatal error
	Red	Red	Amber	DRAM fatal error after a motherboard configuration error
	Amber	Red	Red	Bootstrap CRC error
	Amber	Red	Off	System board ID bad (MAC address)
	Red	Red	Red	Firmware uncompress error
	Any	Any	Red	Unsupported radio

Aironet Services Setup

Navigation

Summary Status > Setup > Services/Aironet Services > Aironet Services Setup

Security

There are no security restrictions for this link page, but each of the destination pages require an Administrator with Identity capabilities to make changes.

Aironet Services Setup Page

Overview

This page provides links to manage and install Aironet software licenses and firmware.

Settings

Manage Installation Keys

Use this link to read specifications of the Aironet software license and to install a new license.

Manage System Configuration

Use this link to restart the AP, download a configuration file, or reset AP settings to factory defaults.

Distribute Firmware to other Aironet Devices

Use this link to send a new firmware version to other Aironet devices on your network.

Fully Update Firmware

These are links to alternative ways for reading and updating Aironet system firmware, radio firmware and web pages, all in one step.

Through Browser

This method allows you to browse your hard drive or mapped network drives to find the desired firmware and web page files.

From File Server

With this method, you enter named file information for update from a file server.

Selectively Update Firmware

These are links to alternative ways for reading and updating Aironet system firmware, radio firmware and web pages. You can select which firmware to update (Aironet system firmware, radio firmware, or web pages) rather than updating them all at once.

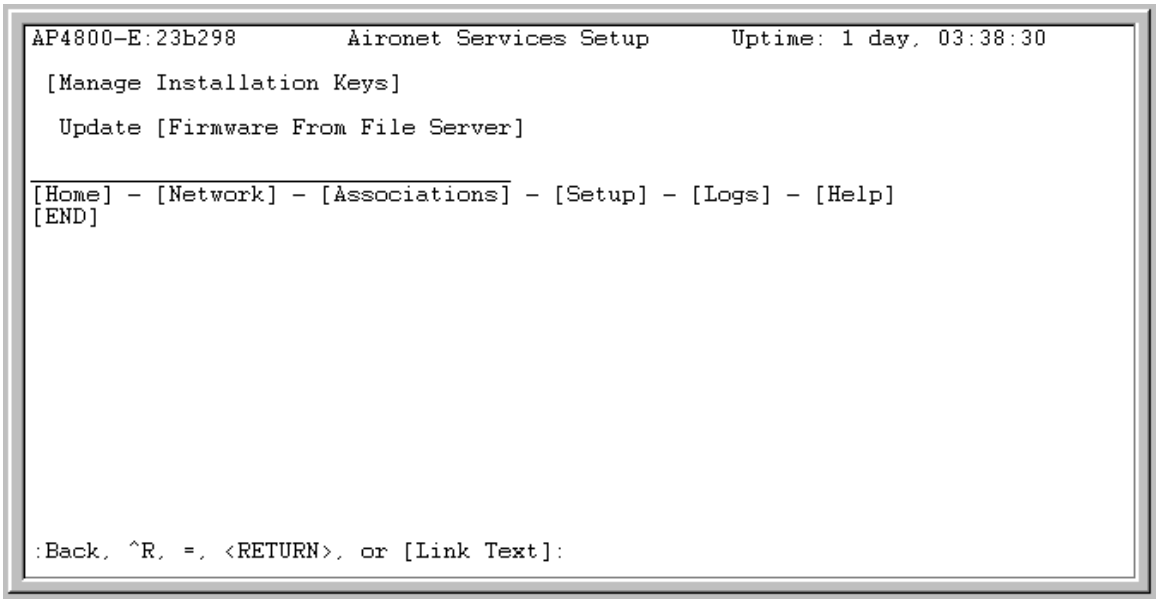
Through Browser

This method allows you to browse your hard drive or mapped network drives to find the desired firmware and web page files.

From File Server

With this method, you enter named file information for update from a file server.

Console Screen


AP4800-E:23b298 Aironet Services Setup Uptime: 1 day, 03:38:30
[Manage Installation Keys]
Update [Firmware From File Server]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Aironet Services - Console Screen Version

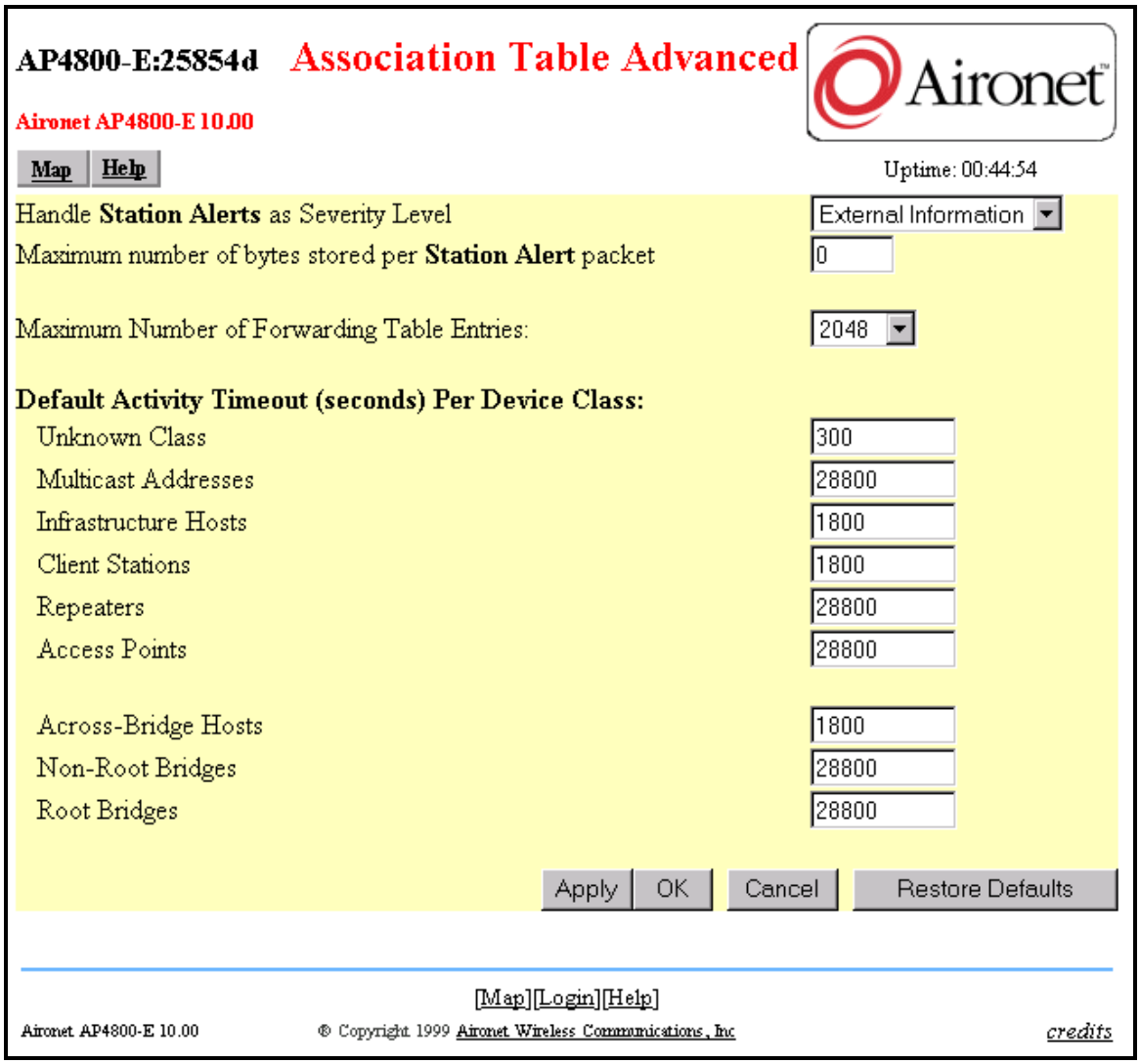
Association Table Advanced

Navigation

Summary Status > Setup > Associations Advanced > Association Table Advanced

Security

This page requires read capabilities.



Association Table Advanced Page

Overview

This page controls the total number of devices the AP can track in the Association Table, and the amount of time the AP continues to track each device type when a device is inactive.

Settings

Handle Station Alerts as Severity Level

This setting determines the Severity Level at which Station Alerts are reported in the Event Log. This setting also appears on the Event Handling Setup page. You can choose from four Severity Levels:

Fatal Severity Level (System, Protocol, Port)
Fatal-level events indicate an event which prevents operation of the port or device. Typically, for operation to resume, the port or device must be reset. Fatal-level events appear in red in the Event Log.

Alert Severity Level (System, Protocol, Port, External)
Alert-level messages indicate that action has to be taken to correct the condition, and appear in magenta in the Event Log.

Warning Severity Level (System, Protocol, Port, External)
Warning-level messages indicate that an error or failure may have occurred, and appear in blue in the Event Log.

Information Severity Level (System, Protocol, Port, External)
Information-level messages notify you of some sort of event, not of a fatal nature (i.e., the port has been turned off, the rate setting has been changed, etc.), and appear in green in the Event Log.

Maximum Number of bytes stored per Station Alert packet

This setting determines the maximum number of bytes the AP stores for each Station Alert packet when packet tracing is enabled.

Maximum Number of Forwarding Table Entries

This setting determines the maximum number of devices that can appear in the Association Table.

Default Activity Timeout (seconds) Per Device Class

These settings determine the number of seconds the AP will continue to track an inactive device depending on its class. A setting of zero tells the AP to track a device indefinitely, no matter how long it is inactive. A setting of 300 equals five minutes; 1800 equals a half-hour; 28800 equals eight hours.

Action Buttons

This set of four action buttons control option settings:

Apply

After checking new display filter options, press APPLY to accept the new settings. The Association Table page will change to reflect the new settings.

OK

After checking new display filter options, press OK to apply the new settings and return to the Setup page.

Cancel

Click Cancel to return to the Setup page without applying any changes.

Restore Defaults

Click to change all settings back to the AP's default settings.

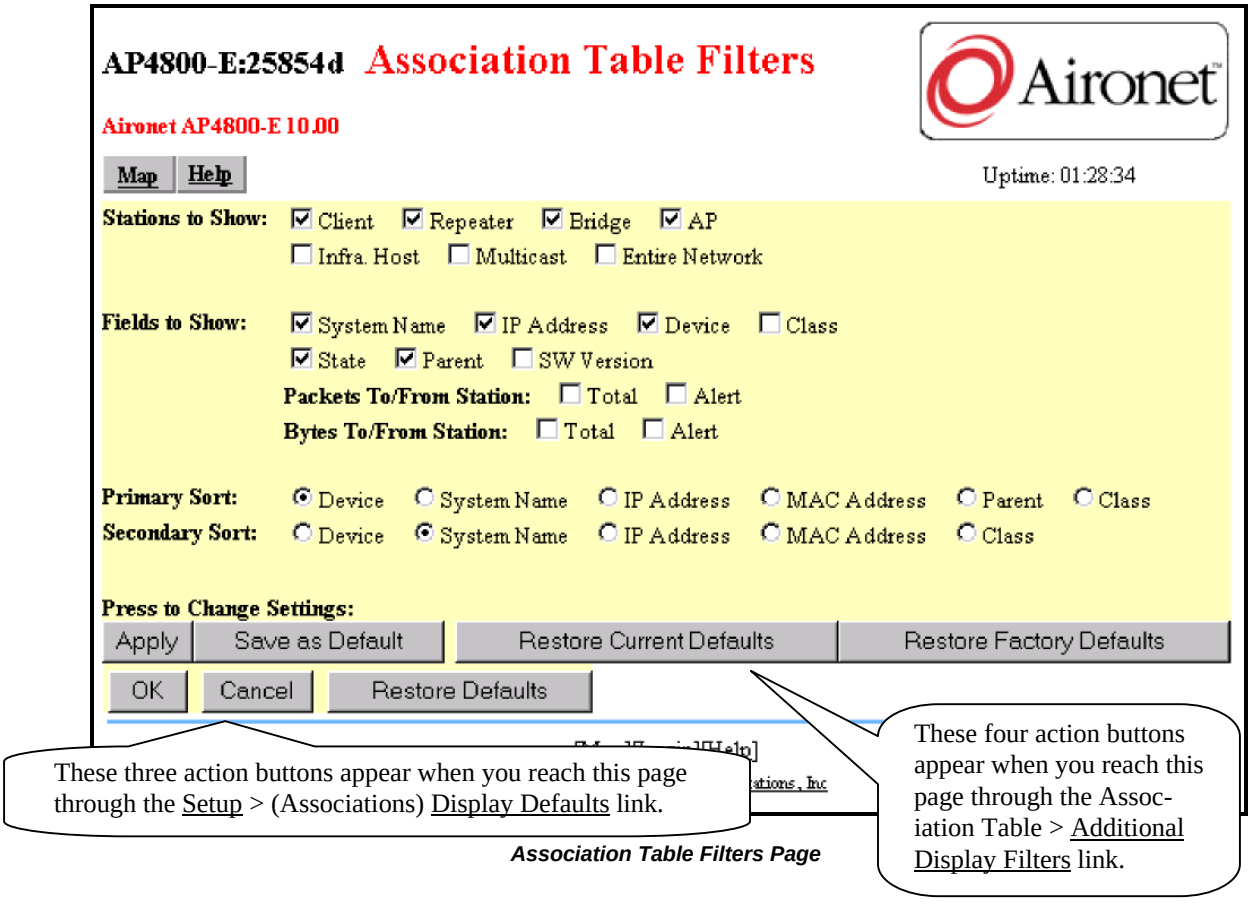
Association Table Filters

Navigation

Summary Status > Setup > (Associations) Display Filters > Association Table Filters
or
Summary Status > Associations > Association Table > Additional Display Filters > Association Table Filters

Security

This page requires Read capabilities.


AP4800-E:25854d Association Table Filters
Aironet AP4800-E 10.00
Map
Help
Uptime: 01:28:34
Stations to Show: Client Repeater Bridge AP
Infra. Host Multicast Entire Network
Fields to Show: System Name IP Address Device Class
State Parent SW Version
Packets To/From Station: Total Alert
Bytes To/From Station: Total Alert
Primary Sort: Device System Name IP Address MAC Address Parent Class
Secondary Sort: Device System Name IP Address MAC Address Class
Press to Change Settings:
Apply
Save as Default
Restore Current Defaults
Restore Factory Defaults
OK
Cancel
Restore Defaults
These three action buttons appear when you reach this page through the Setup > (Associations) Display Defaults link.
These four action buttons appear when you reach this page through the Association Table > Additional Display Filters link.

Association Table Filters Page

Overview

This page allows you to customize the Association Table web page by designating the reporting content and format.

Stations to Show

Select the station types that you want to be displayed in the Association Table. On the example page above, all the station types are selected, so all *associated* stations of these types will appear in the Association Table.

Fields to Show

The fields you select here will be the column headings for the Association Table.

Packets To/From Station: Total or Alert

For reporting packet volume, select the total number of packets, the number of alert packets, or both, to and from the stations in the Association Table. This selection adds additional columns to the Association Table. Only users with Administrator capability can select Alert.

Bytes To/From Station: Total or Alert

For reporting byte volume, select the total number of bytes, the number of alert bytes, or both, to and from the stations in the Association Table. This selection adds additional columns to the Association Table. Only users with Administrator capability can select Alert.

Primary Sort

The primary sort field you select here will be the initial column of the Association Table.

Secondary Sort

The secondary sort field you select here will be the second column of the Association Table.

Action Buttons

These three action buttons appear when you reach the page through the Setup > (Associations) Display Defaults link:

OK

This button applies the new settings and moves the browser back to the previous page.

Cancel

This button cancels all new screen settings and returns to the previous stored settings.

Restore Defaults

Click this button to change all the settings on this page back to the factory default settings.

These four action buttons appear when you reach the page through the Setup > (Associations) Display Defaults link:

Apply

This button applies the new settings and moves the browser back to the previous page.

Save as Default

This button stores the settings as the new default settings for the Association Table.

Restore Current Defaults

This button changes the settings on this page back to the stored default settings.

Restore Factory Defaults

This button changes the settings on this page back to the factory default settings.

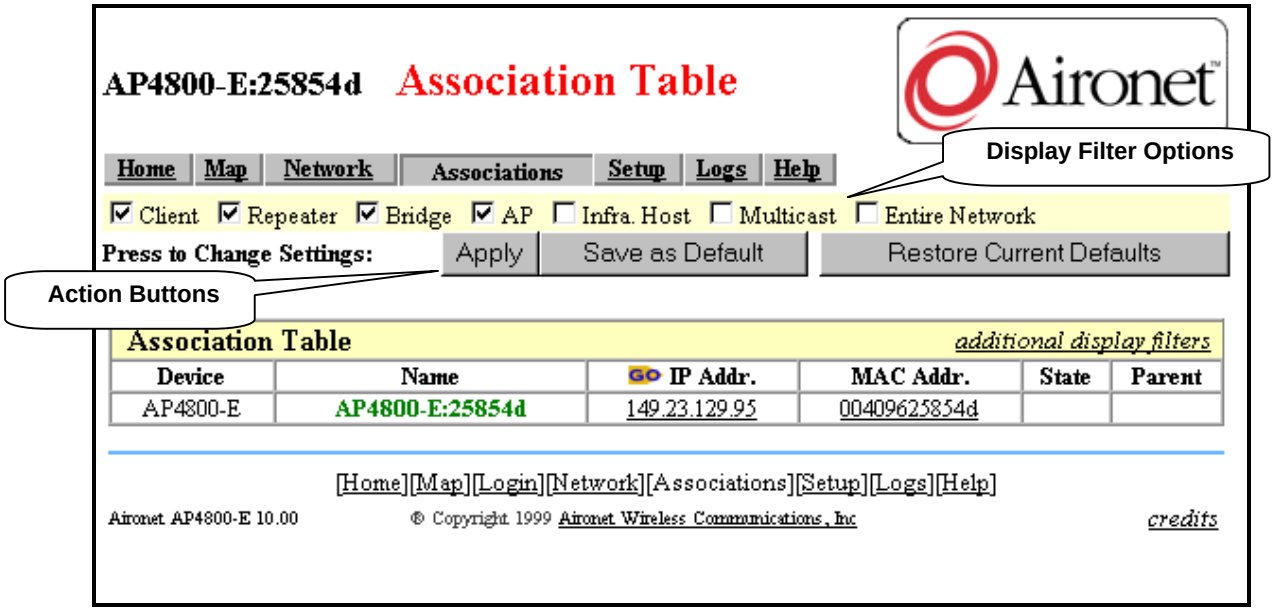
Association Table

Navigation

Summary Status > Associations > Association Table

Security

This page requires Read capabilities.



Association Table Page

Overview

This page displays stations about which the AP has information. Several display options can be used to specify different sets of stations to be displayed.

Display Filter Options

Seven check boxes allow selection of the type of stations to be displayed. The link *additional display filters* provides more display options on the Association Table Filters page. The check box settings can be used in various combinations to focus on selected groups or combinations of stations.

Client

A station that is wirelessly connected to an AP or Bridge.

Repeater

A station (typically another AP) that forwards data from a client station to another AP.

Bridge

A station that connects two wired networks together via a wireless network.

Display Filter Options (continued)

AP (Access Point)
A station that connects a wired network with wireless client stations.

Infra. (Infrastructure) Host
A node that has a wired connection to the network.

Multicast
An address that specifies a set of nodes within the overall network. Examples of multicast destinations could include "broadcast,"bridges, and Novell stations.

Entire Network
All nodes, both wired and wireless, of which the AP is aware.

Action Buttons
This set of three action buttons control option settings:

Apply
After checking new display filter options, press APPLY to accept the new settings. The Association Table page will change to reflect the new settings.

Save as Default
After making new display filter options, press this button to save the settings combination as the AP's default settings. These settings will then define the default Association Table display.

Restore Current Defaults
Press to change all settings back to the AP's default settings.

Association Table
The Association Table display will list the stations that fit the criteria based on the selected display filter options.

Additional Display Filters
This is a link to the Association Table Filters page.

Name
Displays the name of the station, an identifier that helps distinguish one station from another. If a station has an Aironet network name, that name appears here.

IP Addr.
Displays the IP address that has been assigned to the station. When you click the station's IP address, the browser will attempt to display the station's home page (Summary Status, for example). If the station has a web server, the station's home page will appear.

MAC (Media Access Control) Addr.
Displays the Media Access Control (MAC) address that has been assigned to the station by the manufacturer. When you click on the station's MAC address, the browser displays the latest information your AP has about the station.

Association Table (continued)

Device
Displays the types of devices on your network, such as PC4800s, AP4800s, and IEEE-802.11 standard-compliant, non-Aironet devices, listed as "Generic 802.11."

Class
This column displays a general categorization of stations being displayed:

AP
Identifies an Access Point station.

Client, PS Client
Identifies a client or power-save client station.

Bridge, Bridge R
Identifies a bridge or a root bridge.

Rptr
Identifies a repeater.

Mcast
Identifies a multicast address.

Infra
Identifies an infrastructure node, typically a workstation with a wired connection to the Ethernet network.

State
Displays one of three different operational states for each wireless station:

Assoc
The station is associated with an AP.

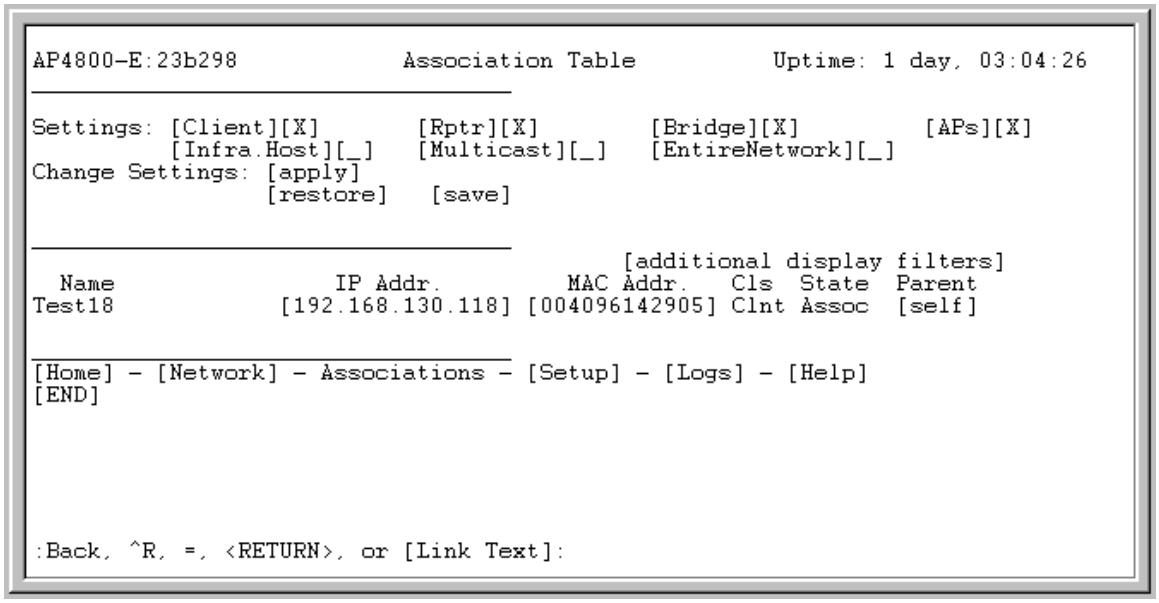
Unauth
The station is unauthenticated with any AP.

Auth
The station is authenticated with an AP.

Parent
Displays the name of the station to which the client, bridge or repeater is associated. The name [self] indicates that the station is associated with this AP.

SW Version
Displays the current version of Aironet firmware on each station.

Console Screen


AP4800-E:23b298 Association Table Uptime: 1 day, 03:04:26
Settings: [Client][X] [Rptr][X] [Bridge][X] [APs][X]
[Infra.Host][_] [Multicast][_] [EntireNetwork][_]
Change Settings: [apply]
[restore] [save]
[additional display filters]
Name IP Addr. MAC Addr. Cls State Parent
Test18 [192.168.130.118] [004096142905] Clnt Assoc [self]
[Home] - [Network] - Associations - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Association Table - Console Screen Version

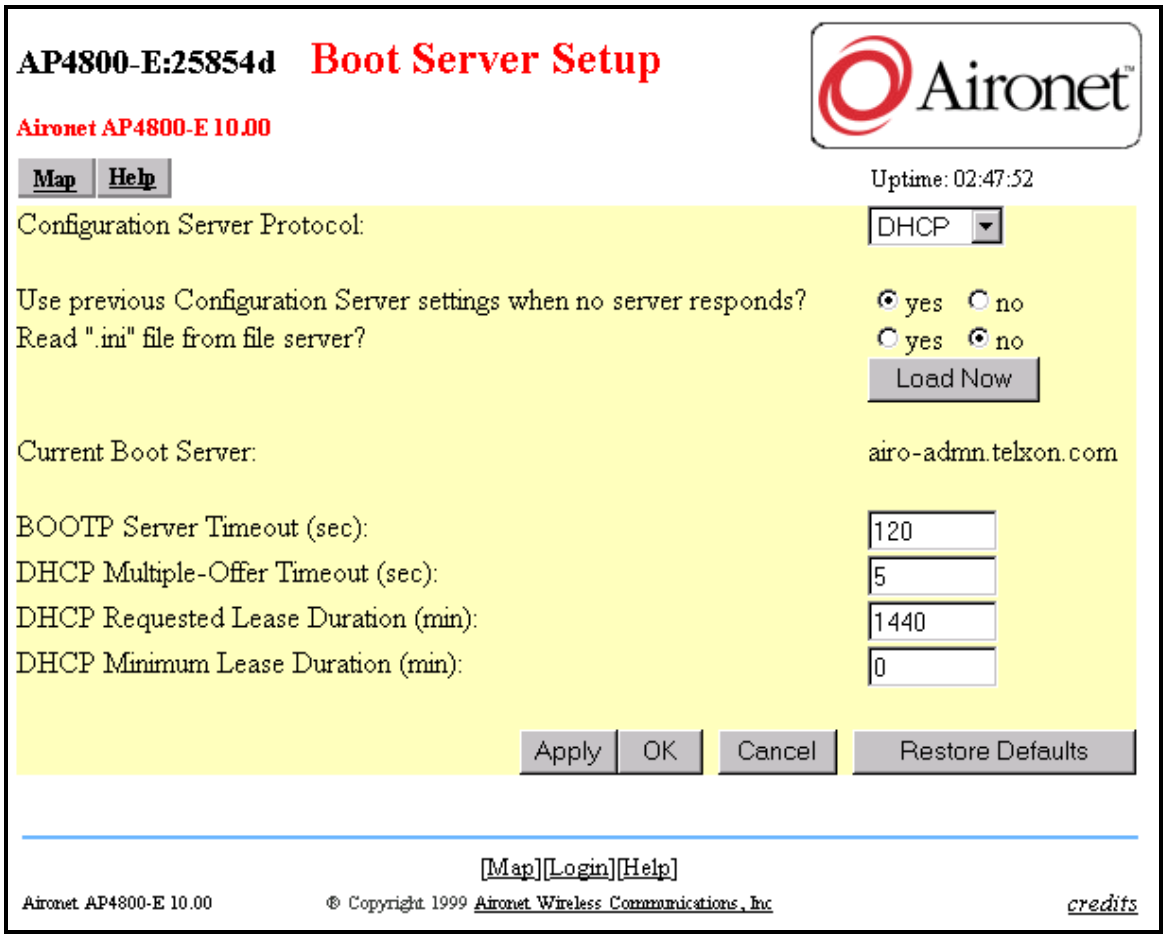
Boot Server Setup

Navigation

Summary Status > Setup > Services/Boot Server > Boot Server Setup

Security

Changes to this page require an Administrator with Identity and Write capabilities.



Boot Server Setup Page

Overview

This page configures the AP for your network's BOOTP or DHCP servers for automatic assignment of IP addresses.

Settings

Configuration Server Protocol

This setting must match the network's method of IP address assignment:

None

The network does not have an automatic system for IP address assignment.

Settings (continued)

BOOTP
With Boot Protocol, IP addresses are hard-coded based on MAC addresses.

DHCP
With Dynamic Host Configuration Protocol, IP addresses are "leased" for predetermined periods of time.

Use previous Configuration Server settings when no server responds?
Select "Yes" to have the AP save the boot server's latest response. The AP will use those settings if the boot server is unavailable.

Read ".ini" file from file server?
Select "Yes" if configuration settings for the AP reside in an ".ini" file on the BOOTP or DHCP server or the default file server. Files with ".ini" extensions usually contain configuration information used during system start-up. Ask your system administrator if your system uses .ini files.

The Load Now action button tells the Access Point to read a ".ini" file immediately.

Current Boot Server
This is the server that responded to the AP's boot request. If all zeros appear, it means that the AP is not using BOOTP/DHCP or that no server responded to the BOOTP/DHCP request.

Server Timeout (sec)
The length of time the AP will wait to receive a response from a single BOOTP server.

DHCP Multiple-Offer Timeout (sec)
The length of time the AP will wait to receive a response when there are multiple DHCP servers.

DHCP Requested Lease Duration (min)
The length of time requested by the AP for an IP address lease from your DHCP server.

DHCP Minimum Lease Duration (min)
The shortest amount of time the AP will accept for an IP address lease. Leases shorter than this are ignored.

Action Buttons
This set of action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Load Now
Click Load Now to immediately apply configuration information in ".ini" files.

Apply
After entering new settings, press APPLY to activate. The browser will remain on this page.

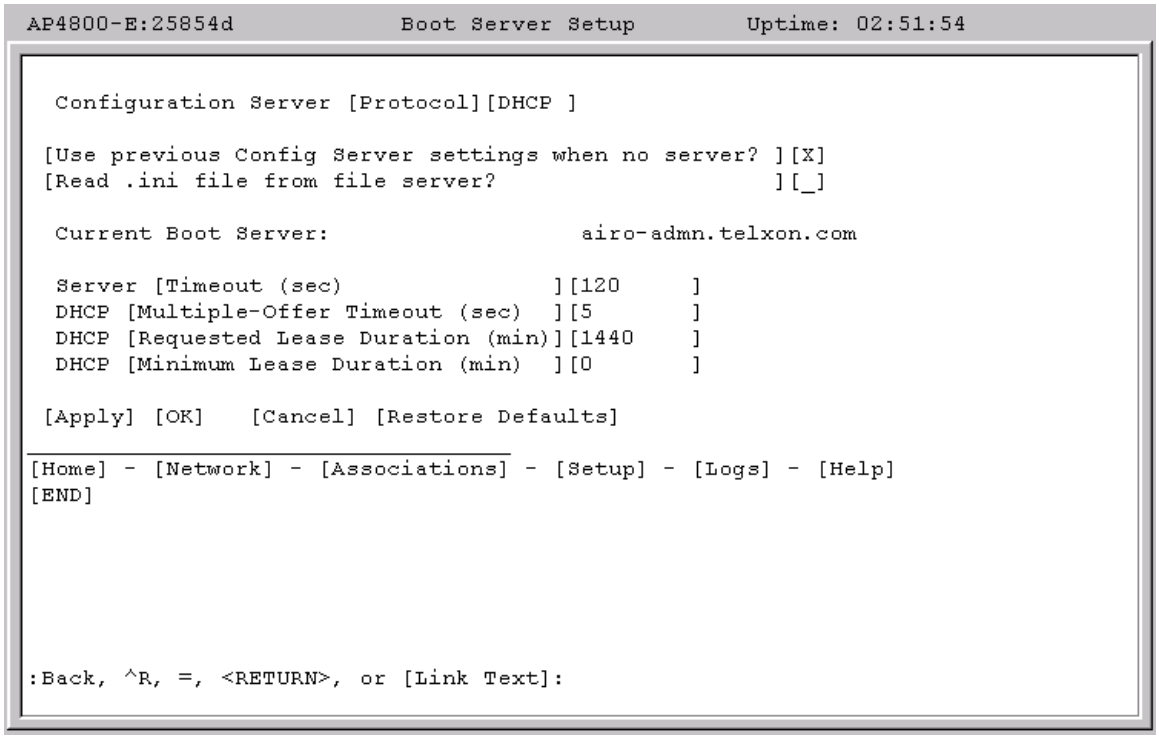
OK
This button both applies the new settings and moves the browser back to the previous page.

Action Buttons, continued

Cancel
This button cancels all new screen settings and returns to the previous stored settings.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d Boot Server Setup Uptime: 02:51:54
Configuration Server [Protocol][DHCP]
[Use previous Config Server settings when no server?][X]
[Read .ini file from file server?][_]
Current Boot Server: airo-admn.telxon.com
Server [Timeout (sec)][120]
DHCP [Multiple-Offer Timeout (sec)][5]
DHCP [Requested Lease Duration (min)][1440]
DHCP [Minimum Lease Duration (min)][0]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Boot Server Setup - Console Screen Version

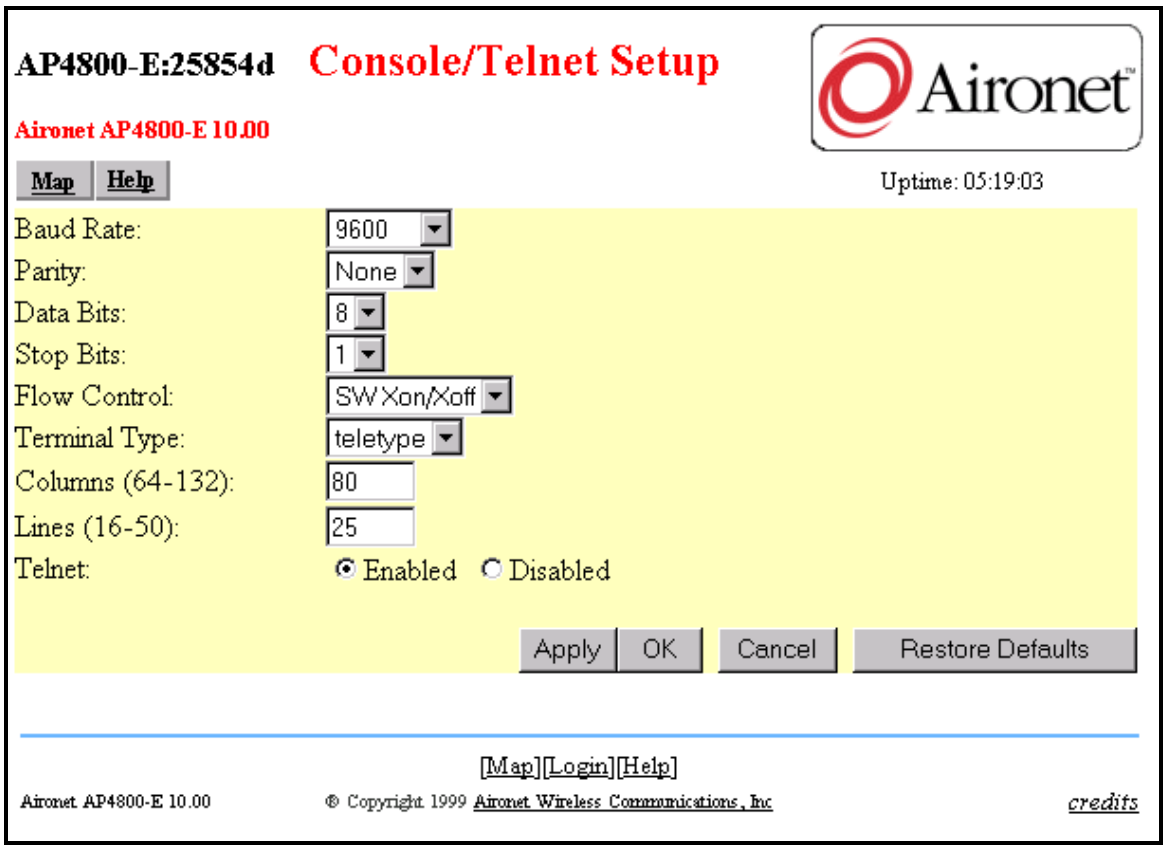
Console/Telnet Setup

Navigation

Summary Status > Setup > Services/Console/Telnet > Console/Telnet Setup

Security

Changes to this page require an Administrator with Write capabilities.



Console/Telnet Setup Page

Overview

This page contains the settings necessary to access both the console port of the AP and to access the AP through Telnet. All software functions that show on browser pages can also be accessed and operated on the console and through Telnet. Using Telnet, you can connect to another computer over the internet and work from your PC as if it were hard-wired to the remote computer. If browser control should be unavailable for any reason, console access or Telnet can provide an alternative means of administration.

Settings

The field values listed below are basic settings. The values for Columns and Lines may require adjustment for improved screen display.

Baud Rate

The rate of data transmission expressed in bits per second. You can select a baud rate from 110 to 115,200, depending on the capability of your PC. The AP will transfer data at any rate in the range.

Parity

An error-detecting process based on the addition of a parity bit to make the total number of bits Odd or Even. The default option, None, uses no parity bit.

Data Bits

Set to 8 by default.

Stop Bits

Set to 1 by default.

Terminal Type

The preferred setting is ANSI, which offers graphic features such as reverse video buttons and underlined links. Since not all terminal emulators support ANSI, the default setting is Teletype.

Columns

Defines the width of the terminal emulator display within the range of 64 characters to 132 characters. Adjust the value to get the optimum display for your terminal emulator.

Lines

Defines the height of the terminal emulator display within the range of 16 characters to 50 characters. Adjust the value to get the optimum display for your terminal emulator.

Enable Telnet

Default setting is Yes. If you select No, the system cannot be accessed via Telnet.

Action Buttons

This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply

After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK

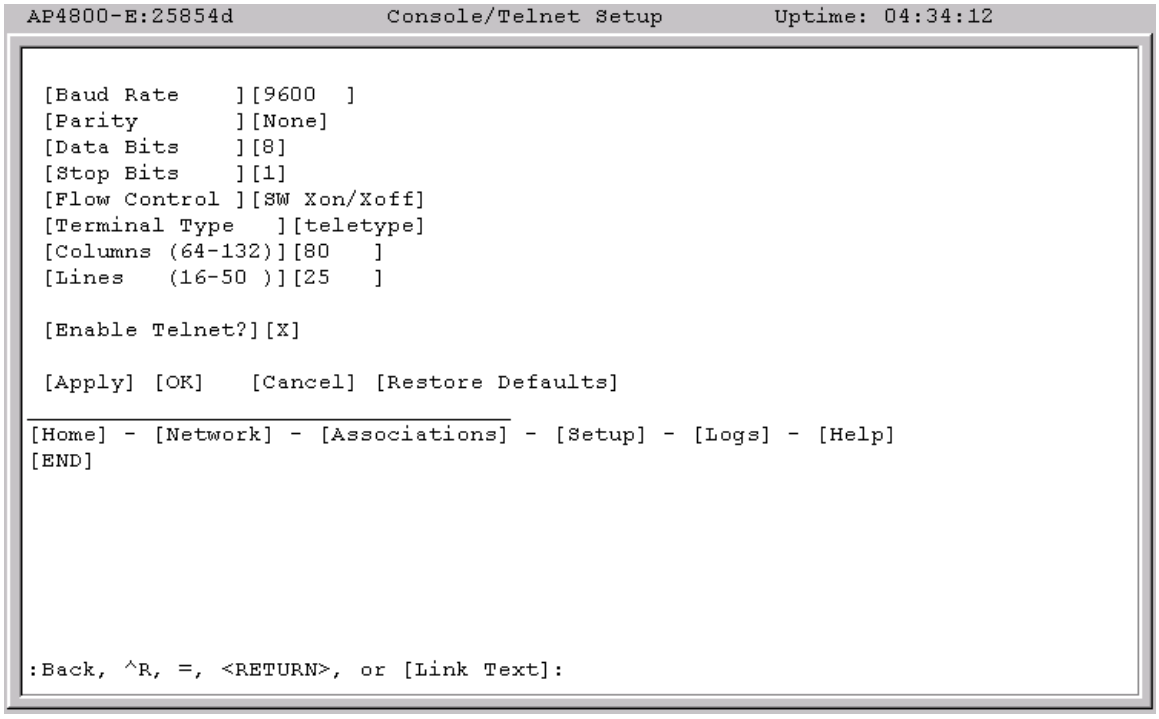
This button both applies the new settings and moves the browser back to the main Setup page.

Action Buttons (continued)

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d Console/Telnet Setup Uptime: 04:34:12
[Baud Rate][9600]
[Parity][None]
[Data Bits][8]
[Stop Bits][1]
[Flow Control][SW Xon/Xoff]
[Terminal Type][teletype]
[Columns (64-132)][80]
[Lines (16-50)][25]
[Enable Telnet?][X]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Console Telnet Setup - Console Screen Version

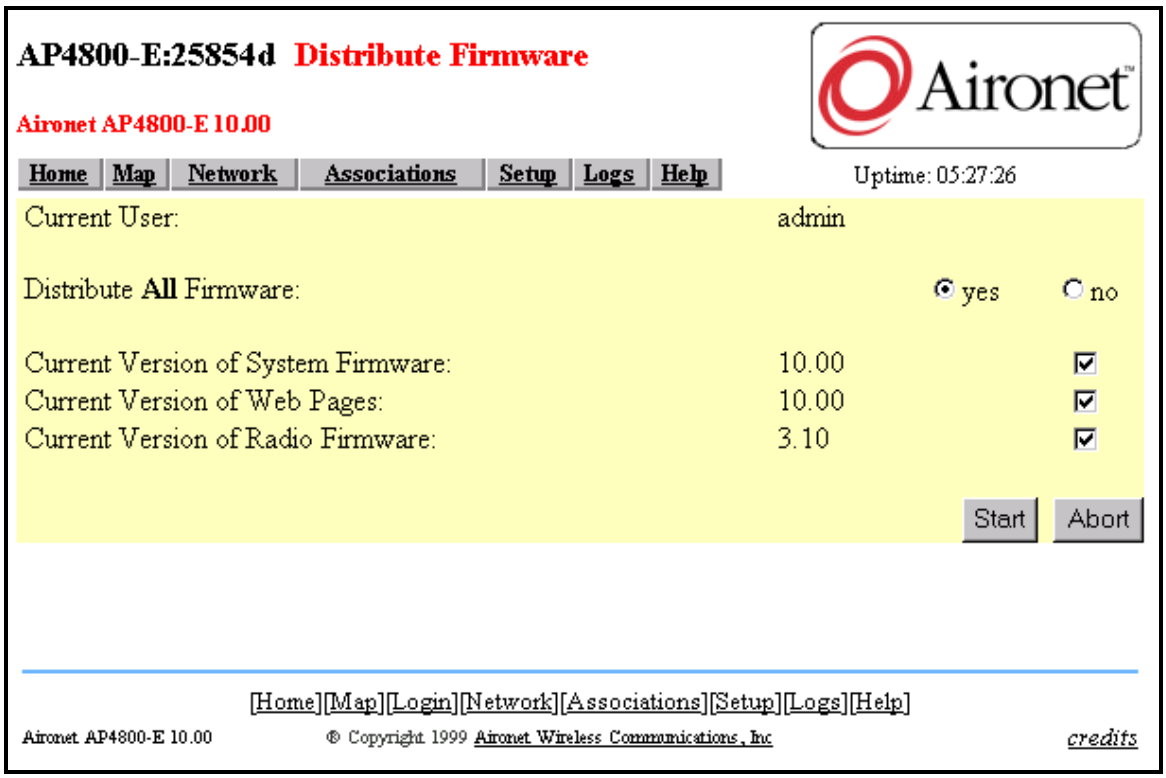
Distribute Firmware

Navigation

Summary Status > Setup > Services/Aironet Services > Distribute Firmware > Distribute Firmware

Security

This page requires Admin and Firmware capabilities.



Distribute Firmware Page

Overview

This page allows you to distribute the Aironet firmware on an Access Point to other Aironet devices. The distributing AP sends the firmware to all the Access Points on your network that:

- are running firmware that supports the Distribute Firmware feature;
- can hear the IP multicast "query" issued by the distributing AP (network devices such as routers can block multicast messages);
- have their web servers enabled for external browsing (see **Web Server Setup**);
- and, if they have User Manager enabled, contain in their User Lists a user with the same user name, password, and capabilities as the user performing the distribution (the person logged in on the distributing AP).

Settings

Current User
This is the user (probably you) who has logged in to distribute the firmware. If User Manager is enabled on the Access Points on your network, the User Lists in those APs must contain a user with the same user name, password, and capabilities as the user performing the distribution (the person logged in on the distributing AP).

Distribute All Firmware
This feature works as a "Select all" button for distributing firmware. Select Yes to distribute the current version of the system firmware, the web pages, and, if applicable, the radio firmware.

Current Version of System Firmware
This is the version of system firmware on the distributing AP. Click the checkbox to mark this version for distribution. (The checkbox is already selected if you select Yes under Distribute All Firmware.)

Current Version of Web Pages
This is the version of the management system web pages on the distributing AP. Click the checkbox to mark this version for distribution. (The checkbox is already selected if you select Yes under Distribute All Firmware.)

Current Version of Radio Firmware
This is the version of the radio firmware on the distributing AP. Click the checkbox to mark this version for distribution. (The checkbox is already selected if you select Yes under Distribute All Firmware.)

Action Buttons
The two action buttons control the firmware distribution.

Start
After you select the firmware you want to distribute, click Start to begin the distribution.

Abort
Click Abort to cancel the distribution.

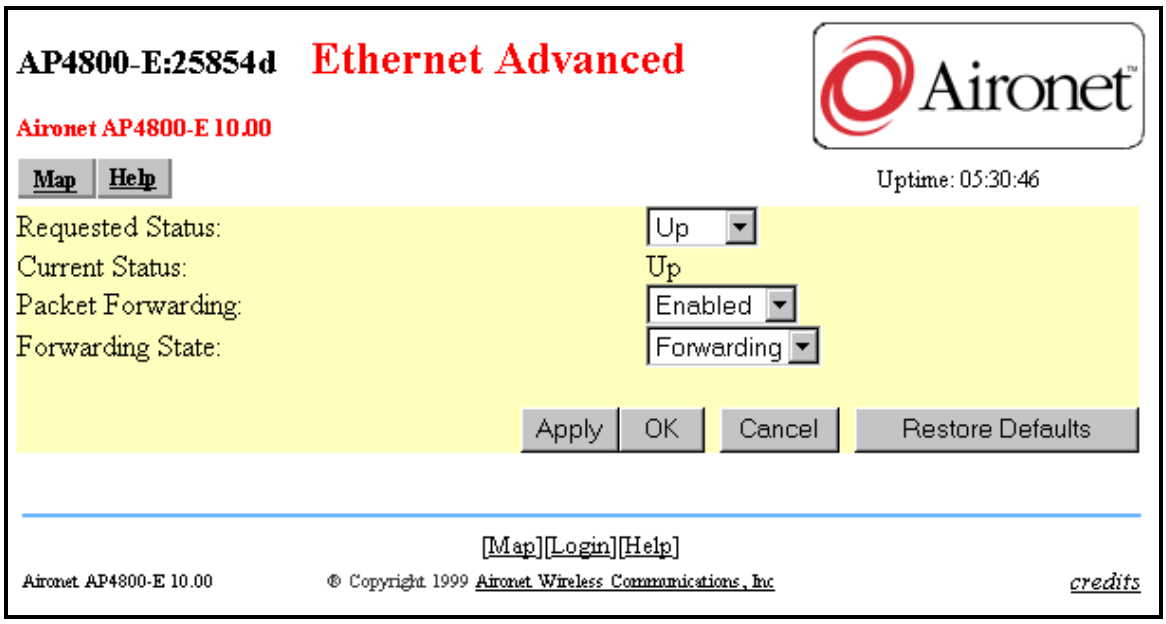
Ethernet Advanced

Navigation

Summary Status > Setup > Network Ports/Ethernet/Advanced > Ethernet Advanced

Security

Changes to this page require an Administrator with Write capabilities. The settings options can have the effect of removing a station from the network or of blocking traffic.



Ethernet Advanced Page

Overview

Use this page to change the operational status of an AP. As an aid in troubleshooting network problems, settings options on this page can be helpful in making temporary changes in device status.

Settings

Requested Status

Read and set the operating condition of the Ethernet port, either "up" or "down."

Current Status

Displays the current status, "up" or "down," of the Ethernet port. This field can also display "error," meaning that the port is operating but is in an error condition.

Packet Forwarding

Read and set the forwarding capability of the port, either "Enabled" or "Disabled". If Disabled, data will not move between the Ethernet and the radio. If Enabled, then the condition is determined by the setting for the Forwarding State.

Forwarding State
Read and set the immediate functioning state with seven possible conditions:

Unknown
The state cannot be determined.

Disabled
Forwarding capabilities are disabled.

Blocking
The port is blocking transmission. This is the state when no stations are associated.

Listening
This setting only applies to wireless bridges; it does not apply to APs.

Learning
This setting only applies to wireless bridges; it does not apply to APs.

Forwarding
The port is operating and forwarding packets. This is the default setting.

Broken
This indicates Ethernet failure.

Action Buttons
This set of four action buttons control status entries. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

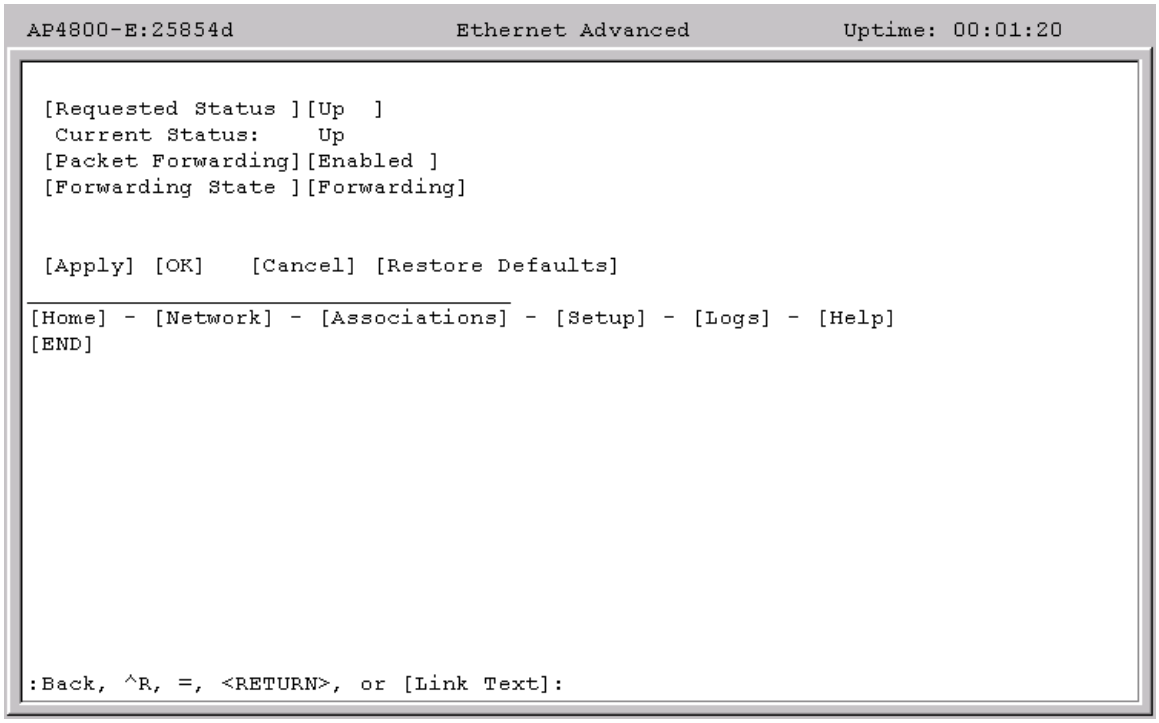
Apply
After entering new settings, press APPLY to activate the new entries. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the previous page.

Cancel
This button cancels entries and returns the settings to the previous stored entries.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d Ethernet Advanced Uptime: 00:01:20
[Requested Status][Up]
Current Status: Up
[Packet Forwarding][Enabled]
[Forwarding State][Forwarding]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Ethernet Advanced - Console Screen Version

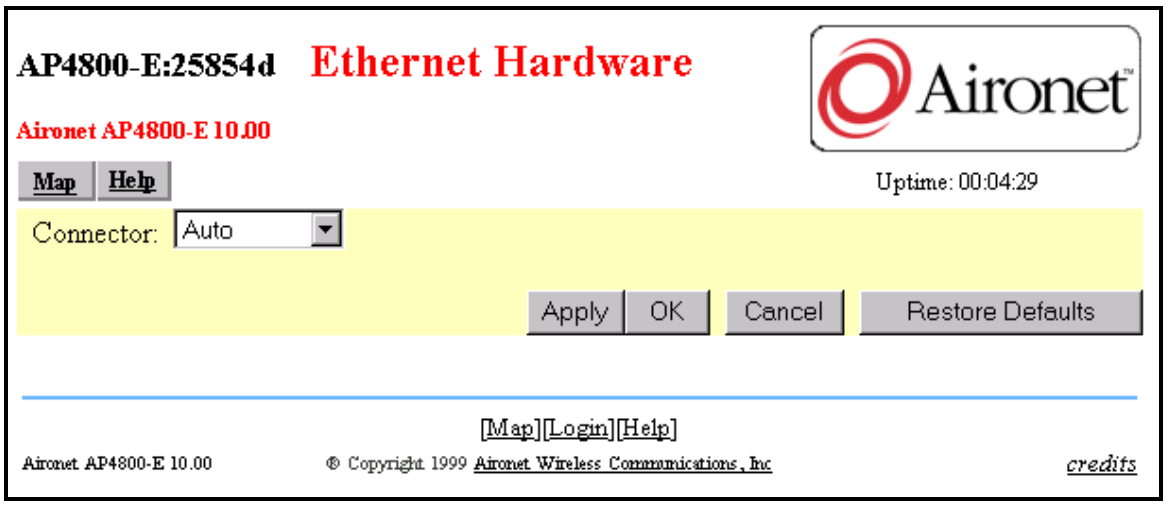
Ethernet Hardware

Navigation

Summary Status > Setup > Network Ports/Ethernet/Hardware > Ethernet Hardware

Security

Changes to this page require an Administrator with Write capabilities.



Ethernet Hardware Page

Overview

The drop-down Connector menu lists three options for the type of connector used by the port. The option you select must match the actual connector type used to link the port with the wired network. The default setting, Auto, instructs the system to identify and select the proper connection.

Settings

Auto

This is the default setting, and it instructs the system to select the connector.

10 Base-T

Ethernet network connector for 10 Mbps transmission speed over twisted-pair wire.

100 Base-T

Ethernet network connector for 100 Mbps transmission speed over twisted-pair wire.

Action Buttons

This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply

After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK

This button both applies the new settings and moves the browser back to the main Setup page.

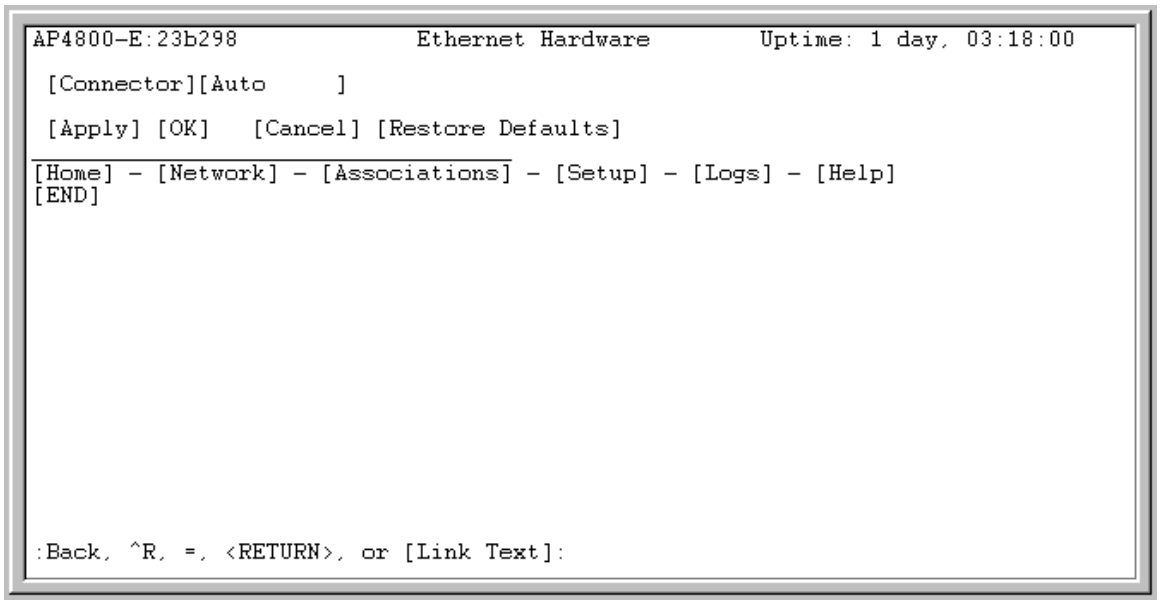
Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults

Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:23b298 Ethernet Hardware Uptime: 1 day, 03:18:00
[Connector][Auto]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Ethernet Hardware - Console Screen Version

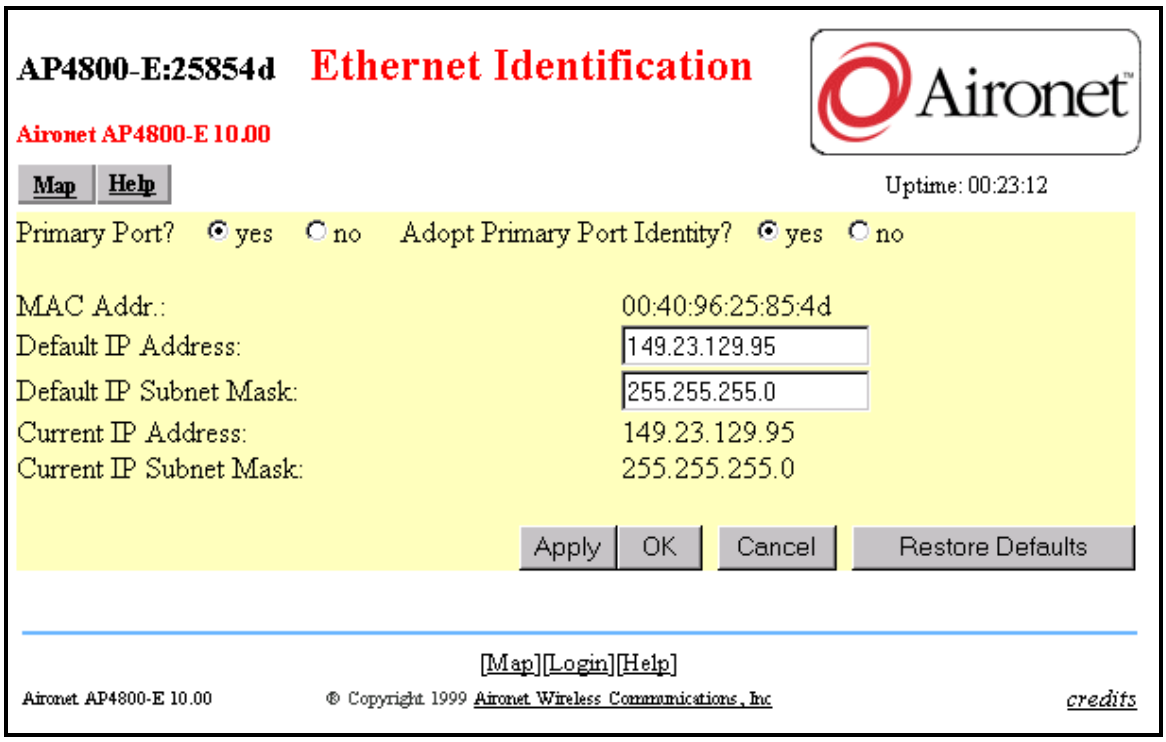
Ethernet Identification

Navigation

Summary Status > Setup > Network Ports > Ethernet/Identification > Ethernet Identification

Security

Changes to this require an Administrator with Identity and Write capabilities.



Ethernet Identification Page

Overview

The Identification page contains the basic locating and identity information for the Ethernet port. The Ethernet Identification page differs slightly from other ports in that it documents the main connection with the wired network.

Primary Port Selection

Two sets of yes/no options allow you to designate this port as the Primary Port of the AP and select whether this port adopts the identity of the primary port.

Primary Port

The primary port of this AP is the network port, which determines the AP's MAC and IP addresses for most system administration purposes. This is generally the Ethernet port.

Primary Port Selection (continued)

Adopt Primary Port Identity

Indicates whether this port adopts the settings of the Primary Port (MAC and IP addresses). For this AP, the primary port and all non-primary ports adopt the primary port settings. **Note:** Administration of some advanced Bridges requires distinguishing between the Ethernet and radio ports.

Port Identification

This section is common to all Identification pages. It displays both default and current identification for MAC Address, IP Address and IP Subnet Mask. Changing a default address on this AP can have serious consequences including the chance of losing network connectivity or forcing a re-boot of the system. See the Express Setup Page for an alternate place to modify station identification [Summary Status > Setup > Express Setup].

MAC Address

This field displays the MAC address assigned by the manufacturer.

Default IP Address

This field allows the assignment or change of the Internet Protocol (IP) address of a station. The significance of such a change depends on whether or not DHCP is enabled for the network. If DHCP is not enabled, this field is the IP address. If DHCP is enabled, this field will only provide the IP address if no DHCP server responds with an IP address for the AP.

Default IP Subnet Mask

The number used to identify the subnetwork, so that the IP address can be recognized on the LAN. If DHCP is not enabled, this field is the subnet mask. If DHCP is enabled, this field will only provide the subnet mask if no DHCP server responds to the AP's DHCP request.

Current IP Address

This field displays the IP address currently assigned to or used by the station. This will be the same address as the default IP address unless DHCP is enabled. If DHCP is enabled and a server responded to the AP's DHCP request, this field displays the IP address that has been dynamically assigned to the station for the duration of its lease on the network. It might not match the default IP address.

Current IP Subnet Mask

This field displays the IP subnet mask currently assigned to or used by the station. This will be the same subnet mask as the default subnet mask unless DHCP is enabled. If DHCP is enabled and a server responded to the AP's DHCP request, this will be the subnet mask specified by the DHCP server.

Action Buttons

This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply

After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK

This button both applies the new settings and moves the browser back to the main Setup page.

Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults

Press to change all settings on this page back to the factory default settings.

Console Screen

```
AP4800-E:25854d        Ethernet Identification          Uptime: 00:33:32

 [Primary Port?][X]       [Adopt Primary Port Settings?][X]

  MAC Addr.               : 00:40:96:25:85:4d
  Default IP [Address    ][149.23.129.95    ]
  Default IP Subnet [Mask][255.255.255.0    ]
  Current IP Address      : 149.23.129.95
  Current IP Subnet Mask  : 255.255.255.0

 [Apply] [OK]   [Cancel] [Restore Defaults]
_____________________________
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]









:Back, ^R, =, <RETURN>, or [Link Text]:
```

Ethernet Identification - Console Screen Version

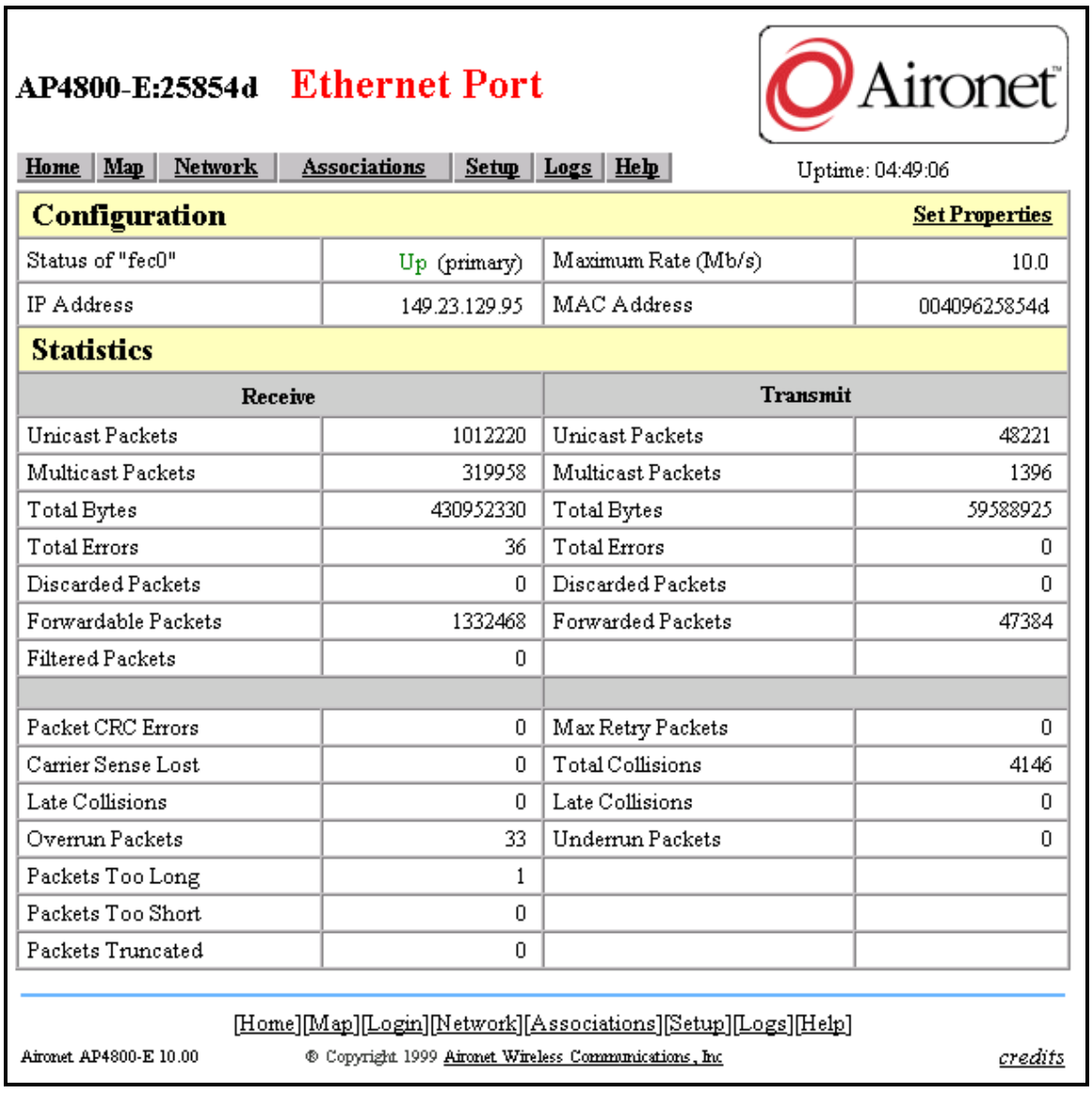
Ethernet Port

Navigation

Summary Status > Network Ports/ Ethernet > Ethernet Port

Security

This is a status information page that can be read by all users.



AP4800-E:25854d **Ethernet Port**

Aironet

Home | Map | Network | Associations | Setup | Logs | Help

Uptime: 04:49:06

Configuration			Set Properties
Status of "fec0"	Up (primary)	Maximum Rate (Mb/s)	10.0
IP Address	149.23.129.95	MAC Address	00409625854d

Statistics

Receive		Transmit	
Unicast Packets	1012220	Unicast Packets	48221
Multicast Packets	319958	Multicast Packets	1396
Total Bytes	430952330	Total Bytes	59588925
Total Errors	36	Total Errors	0
Discarded Packets	0	Discarded Packets	0
Forwardable Packets	1332468	Forwarded Packets	47384
Filtered Packets	0		
Packet CRC Errors	0	Max Retry Packets	0
Carrier Sense Lost	0	Total Collisions	4146
Late Collisions	0	Late Collisions	0
Overrun Packets	33	Underrun Packets	0
Packets Too Long	1		
Packets Too Short	0		
Packets Truncated	0		

[Home][Map][Login][Network][Associations][Setup][Logs][Help]

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Ethernet Port Page

Overview

This page presents key information on the Access Point's Ethernet port. The Ethernet port is the wired connection to the Ethernet network.

Configuration

The top four cells report the operational status, maximum data rate and the identifying addresses of the Ethernet port. See the Express Setup page for information on device and port identification [Summary Status > Setup > Express Setup].

Set Properties

This is a link to the Ethernet Hardware page.

Status of "fec0"

"Fast Ethernet Controller" is part of Motorola's naming convention for the Ethernet device used by the AP. This field displays one of the three possible operating states for the port. The added term "primary" identifies the port as the primary port for the AP.

Up

The port is operating properly.

Down

The port is not operating.

Error

The port is in an error condition.

Maximum Rate (Mb/s)

Maximum rate of data transmission in megabits per second.

IP Addr.

Internet protocol address of the device. Use the Express Setup page to assign or change IP address [Summary Status > Setup > Express Setup].

MAC (Media Access Control) Addr.

The Media Access Control (MAC) address is a unique identifier assigned by the manufacturer.

Statistics: Receive

This section reports the data traffic received through the AP's Ethernet port.

Unicast Packets

The number of packets received in "point-to-point" communication.

Multicast Packets

The number of packets received that were sent as a transmission to a set of nodes.

Total Bytes

Total number of bytes received.

Total Errors

Packets determined to be in error.

Discarded Packets

Packets discarded due to errors.

Statistics: Receive (continued)

Forwardable Packets
Packets received by the port that were acceptable or passable through the filters.

Filtered Packets
Packets that were stopped or screened by the filters set up on the port.

Packet CRC Errors
Cyclic redundancy check errors that were detected in a received packet.

Carrier Sense Lost
The number of disconnects from the Ethernet network. This is generally due to a disconnected wiring problem.

Late Collisions
Packet errors that were likely caused by over-long wiring problems. Could also indicate a failing NIC card.

Overrun Packets
Ethernet packets that were discarded because the AP had a temporary overload of packets to handle.

Packets Too Long
Ethernet packet that were larger than the maximum packet size of 1518 bytes.

Packets Too Short
Ethernet packet that were shorter than the minimum packet size of 64 bytes.

Packets Truncated
Corrupt or incomplete packets.

Statistics: Transmit
This section reports the data traffic transmitted from the AP's Ethernet port.

Unicast Packets
The number of packets transmitted in "point-to-point" communication.

Multicast Packets
The number of packets transmitted that were sent as a transmission to a set of nodes.

Total Bytes
Total number of bytes transmitted from the port.

Total Errors
The number of packets determined to be in error.

Discarded Packets
The number of packets discarded by the AP due to errors.

Statistics: Transmit (continued)

Forwarded Packets
The number of packets transmitted by the port that were acceptable or passable through the filters.

Max Retry Packets
Packets which failed after being retried several times.

Total Collisions
The number of packet collisions that occurred through this port.

Late Collisions
Packet errors that were likely caused by over-long wiring problems. Could also indicate a failing NIC card.

Underrun Packets
Packets failed to be sent because the AP was unable to keep up with the Ethernet controller.

Console Screen

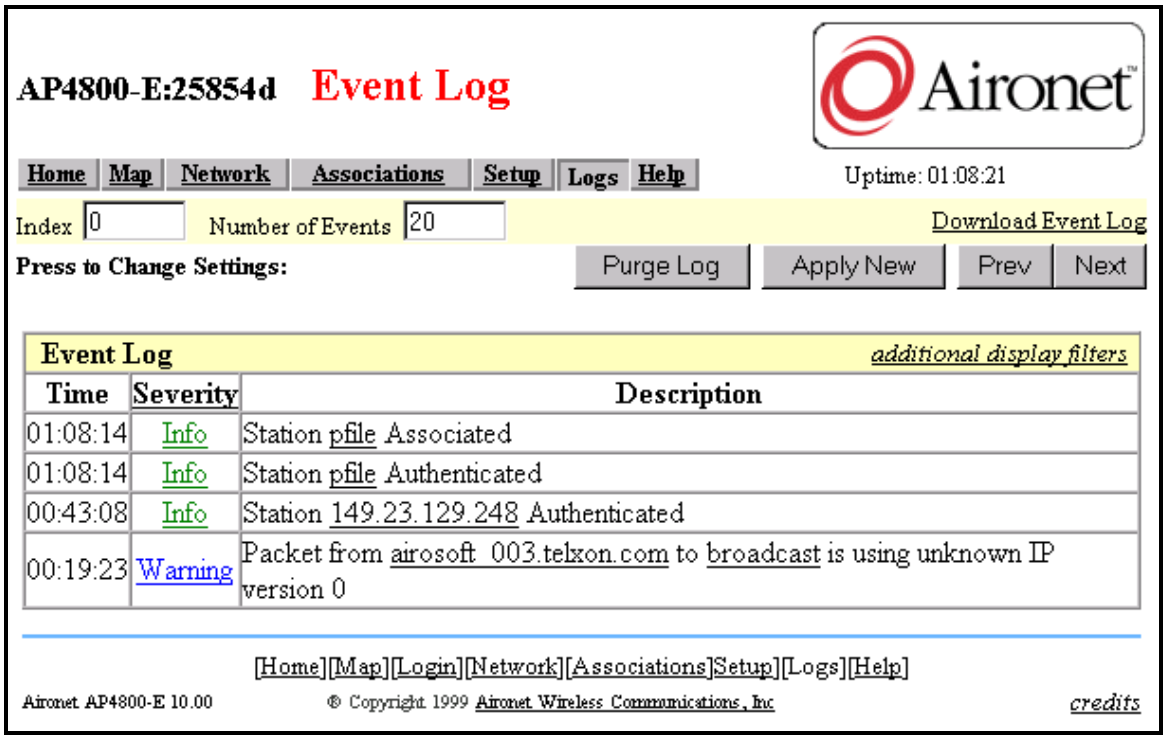
```
AP4800-E:25854d                    Ethernet Port       Uptime: 05:05:27

Configuration                                                [Set Properties]
_____________________________________
   Status of "fec0"  : Up              Mb/s              : 10.0
   IP Address        : 149.23.129.95   MAC Address       : 00409625854d

Statistics
_____________________________________
          Receive                            Transmit
   Unicast Packets   : 1171237          Unicast Packets  : 48598
   Multicast Packets : 337573           Multicast Packets: 1474
   Total Bytes       : 512645753        Total Bytes      : 59693290
   Total Errors      : 37               Total Errors     : 0
   Discarded Packets : 0                Discarded Packets: 0

   Packet CRC Errors : 0                Max Retry Packets: 0
   Carrier Sense Lost: 0                Total Collisions : 4256
   Late Collisions   : 0                Late Collisions  : 0
   Overrun Packets   : 34               Underrun Packets : 0
   Packets Too Long  : 1
   Packets Too Short : 0
   Packets Truncated : 0
:BOttom, :Down, :Back, ^R, =, <RETURN>, or [Link Text]:
```

Ethernet Port - Console Screen Version

Event Log

Navigation
Summary Status > Logs > Event Log

Security
This is a status information page that can be read by all users.



Event Log Page

Overview
This page displays a chart of network events or occurrences listed in time-sequential order. The Settings and Display Filters fields provide selection options to display particular information on network operation.

Settings

Index
Select the starting event number to display on the chart. Index '0' is the most recent event.

Number of Events
Select the number of events to display on the chart.

Event Log and Display Filters
The sample page above shows the default log view with column headers Time, Severity and Description. Additional Display Filters is a link to the Event Display Setup Screen. The Event Display Setup Screen has more selection and format options dealing with how time is displayed and what severity levels are shown. A

Download Event Log link allows you to download the event log without having to page through the menus. The Event Log is in plain text for search purposes and includes the appropriate timestamp.

Time
Time is logged as cumulative days, hours, and minutes since the AP was turned on, or as "wall-clock" time if a time server is specified or if the time has been manually set on the AP.

Severity
Events carry several different severity levels in terms of their impact on network operations. Clicking Severity links you to the Event Log Summary Screen where you can see a tally of the events of each severity that have occurred.

Clicking on the name of the severity takes you to a help page that describes the specific event.

Info (green)
Routine information; no error.

Warning (blue)
Indicates a potential error condition.

Alert (magenta)
An event occurred which was pre-selected as something to be recorded in the log. A typical example of an alert would be a packet error condition. In the Station page, there are check boxes which provide for packet transmissions to and/or from the Station to be reported as Alerts in the Event Log.

FATAL (red)
An event which prevents operation of the port or device. Typically, for operation to resume, the port or device must be reset.

Description
This column describes the nature or source of the event. For ease in investigating events related to a station, this column will include the station's identifier (MAC address, IP address, etc.) as a direct link to the appropriate Station Page.

Action Buttons
This set of four action buttons control identification entries. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing a button.

Purge Log
Permanently deletes records of displayed events.

Apply New
Applies the entries in the Index and Number of Events fields.

Prev and Next
Allows you to page through the event log.

Console Screen

```
AP4800-E:25854d           Event Log            Uptime: 01:12:00

Change Settings:
[Index][0     ]
[Number of Events][20    ]
[Purge Log] [Apply New] [Prev] [Next]

Event Log

    Time       Severity           Description
  01:11:51 (Warning): Received multicast MAC address c7d9b121b121 as SOURCE to
destination ffffffff0008 on port "fec0"
  01:08:14 (Info): Station pfile Associated
  01:08:14 (Info): Station pfile Authenticated
  00:43:08 (Info): Station 149.23.129.248 Authenticated
  00:19:23 (Warning): Packet from airosoft_003.telxon.com to broadcast is using
unknown IP version 0

[Home] - [Network] - [Associations] - [Setup] - Logs - [Help]
[END]



:Back, ^R, =, <RETURN>, or [Link Text]:
```

Event Log - Console Screen Version

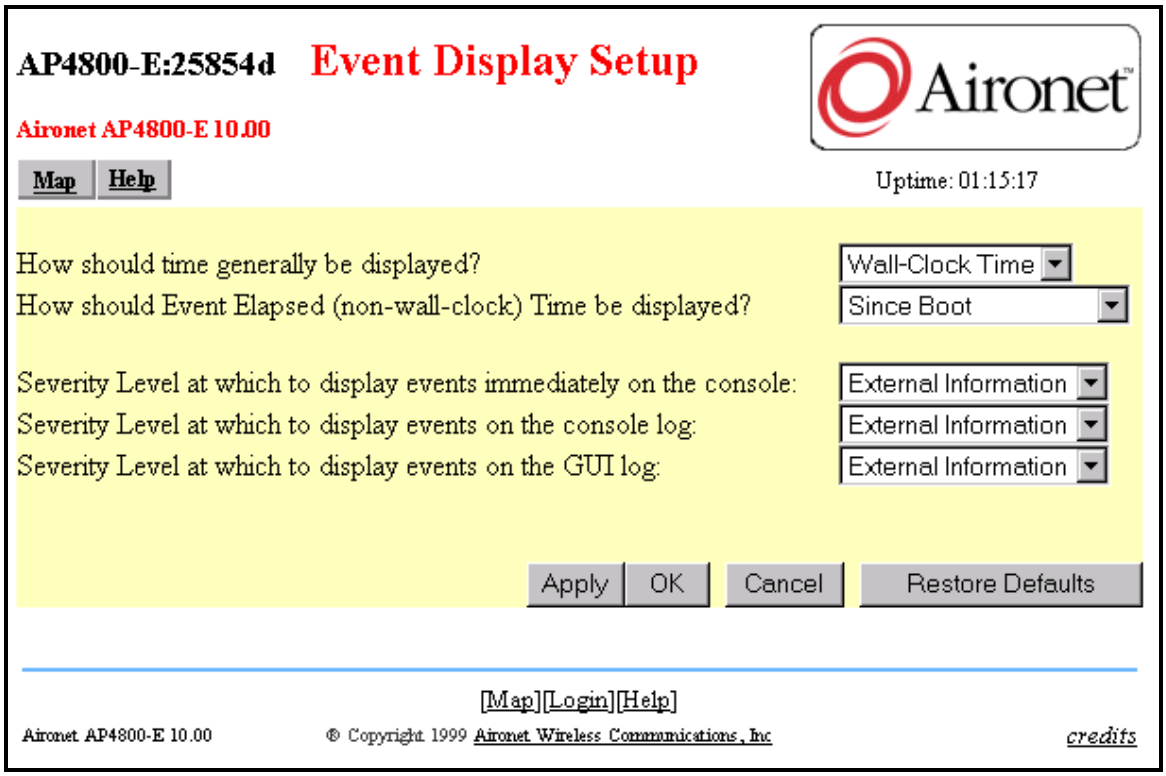
Event Display Setup

Navigation

Summary Status > Setup > Event Log: Display Defaults

Security

Changes to this page require an Administrator with Write capabilities.



Event Display Setup Page

Overview

This page allows you to determine how time should be displayed on the event log. In addition, you can determine what severity level is significant enough to display an event.

Settings

How should time generally be displayed?

This pull-down menu allows you to decide whether the events in the log are displayed as system uptime or wall-clock time. If system uptime, the events are displayed either since the boot or since the last time the Event Log was displayed. This setting is selected in the following pulldown. If wall-clock time, the events are displayed in a YY:MM:DD HH:MM:SS format. If no time has been set (either manually or by a time server), the time display will appear as uptime regardless of this selection.

Settings (continued)

How should event elapsed (non-wall-clock) Time be displayed?

Choose to display event time since the last boot or since the event occurred.

Severity Level at which to display events immediately on the console, console log, or GUI log:

When an event occurs, it may be displayed immediately on the console, on the console log, or on the GUI log for read purposes only. The event may also be recorded. (You control display and recording of events through the Event Handling Setup page.) Use the pull-down menus to choose one of the eleven security levels.

Alerts indicate events of which an administrator specifically requested to be informed. Warnings indicate that a failure has occurred. Information is simply notification of some sort of action, not of a fatal nature (i.e., the port has been turned off, the rate setting has been changed, etc.)

- Protocol alert
- Port alert
- External alert
- System warning
- Protocol warning
- Port warning
- External warning
- System information
- Protocol information
- Port information
- External information

These selections affect display of events only. They are used to filter information, not to remove it from the Event Log.

Action Buttons

This set of four action buttons controls settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply

After entering new values or settings, press APPLY to activate the new entries. The browser will remain on this page.

OK

This button both applies the new settings and moves the browser back to the previous page.

Cancel

This button cancels all entries or port settings and returns the settings to the previous stored entries.

Restore Defaults

Press to change all settings on this page back to the factory default settings.

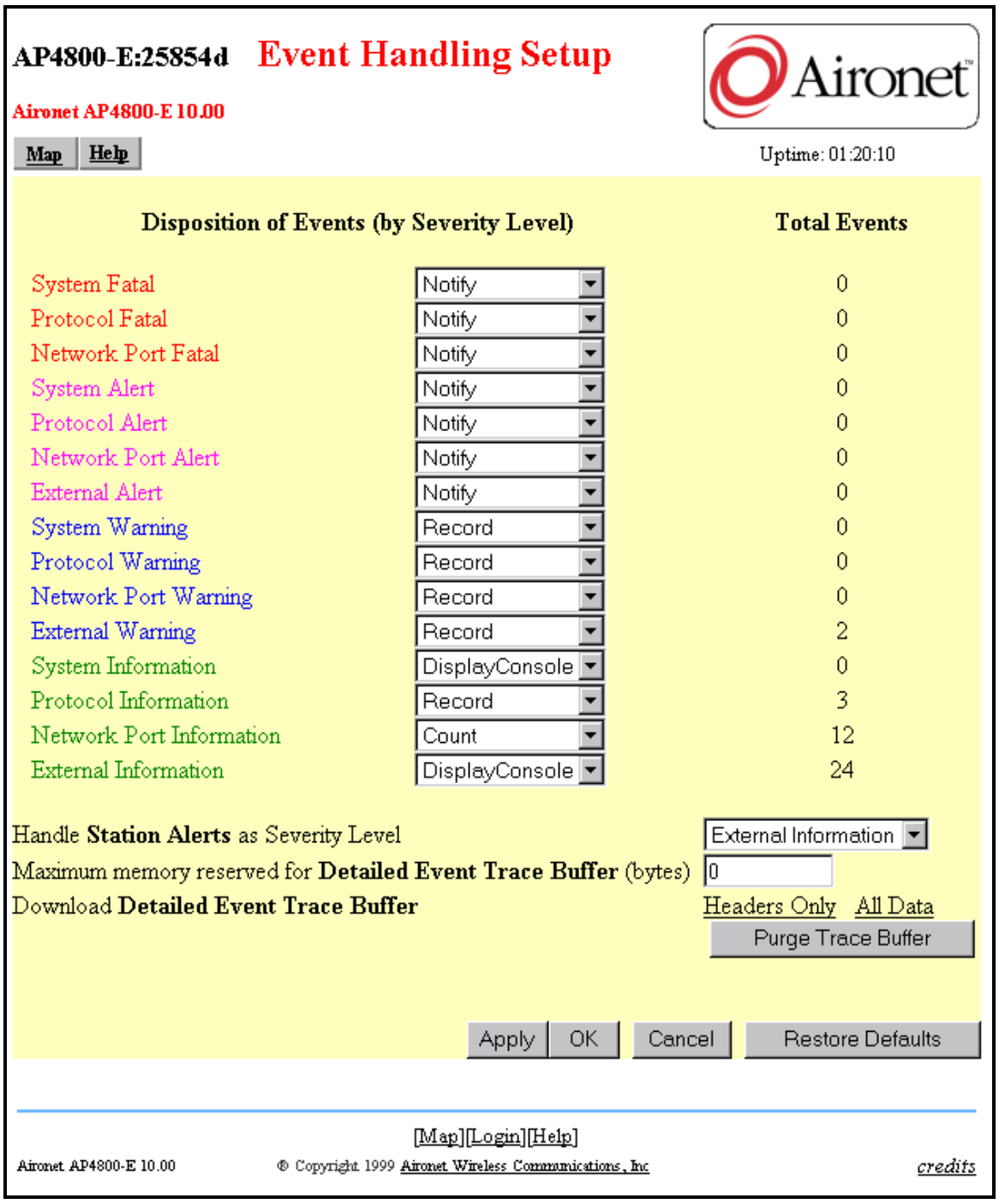
Event Handling Setup

Navigation

Summary Status > Setup > Event Log: Event Handling

Security

Changes to this page require an Administrator with Write capabilities.



Event Handling Setup Page

Overview

This page allows you to determine how notification of the different fatal, alert, warning, and information events should occur. You can choose to only count the events, display them to the console but not store them, record them after displaying them on the console, or notify someone of the occurrence after displaying and recording the event.

Settings

System fatal
Protocol fatal
Network port fatal
System alert
Protocol alert
Network port alert
External alert
System warning
Protocol warning
Network port warning
External warning
System information
Protocol information
Network port information
External information

The event settings control how events are handled by the AP: counted, displayed in the log, recorded, or announced in a notification. The settings are color coded: red for fatal errors, magenta for alerts, blue for warnings, and green for information. You select an option from each setting's pull-down menu. Each option includes and builds upon the previous option.

Count

Simply tallies the total events occurring in this category without any form of notification or display.

Display console

Provides a read-only display of the event but does not record it.

Record

Makes a record of the event in the log and provides a read-only display of the event.

Notify

Makes a record of the event in the log, displays the event, and tells you to notify someone internally of the occurrence.

Handle Station Alerts as Severity Level:

Allows you to set a severity level for System Alerts. Use the pull-down menus to choose one of the eleven severity levels. Alerts indicate that action has to be taken to correct the condition. Warnings indicate a potential error condition. Information is simply routine notification of some sort of action; no error has occurred.

- Protocol alert
- Port alert
- External alert
- System warning
- Protocol warning
- Port warning
- External warning
- System information
- Protocol information
- Port information
- External information

Maximum memory reserved for Detailed Event Trace Buffer (bytes)

Enter the number of bytes reserved for the Detailed Event Trace Buffer. The Detailed Event Trace Buffer is a high-performance tool for tracing the contents of packets between specified stations on your network.

Download Detailed Event Trace Buffer

Provides a link so you can view Headers Only or All Data in the detailed trace buffer. The number of bytes saved per packet is controlled on the Association Table Advanced Setup page.

Action Buttons

This set of five action buttons controls settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Purge Trace Buffer

Permanently deletes the packet traces from the Event Trace Buffer.

Apply

After entering new values or settings, click APPLY to activate the new entries. The browser will remain on this page.

OK

This button both applies the new settings and moves the browser back to the previous page.

Cancel

This button cancels all entries or port settings and returns the settings to the previous stored entries.

Restore Defaults

Press to change all settings on this page back to the factory default settings.

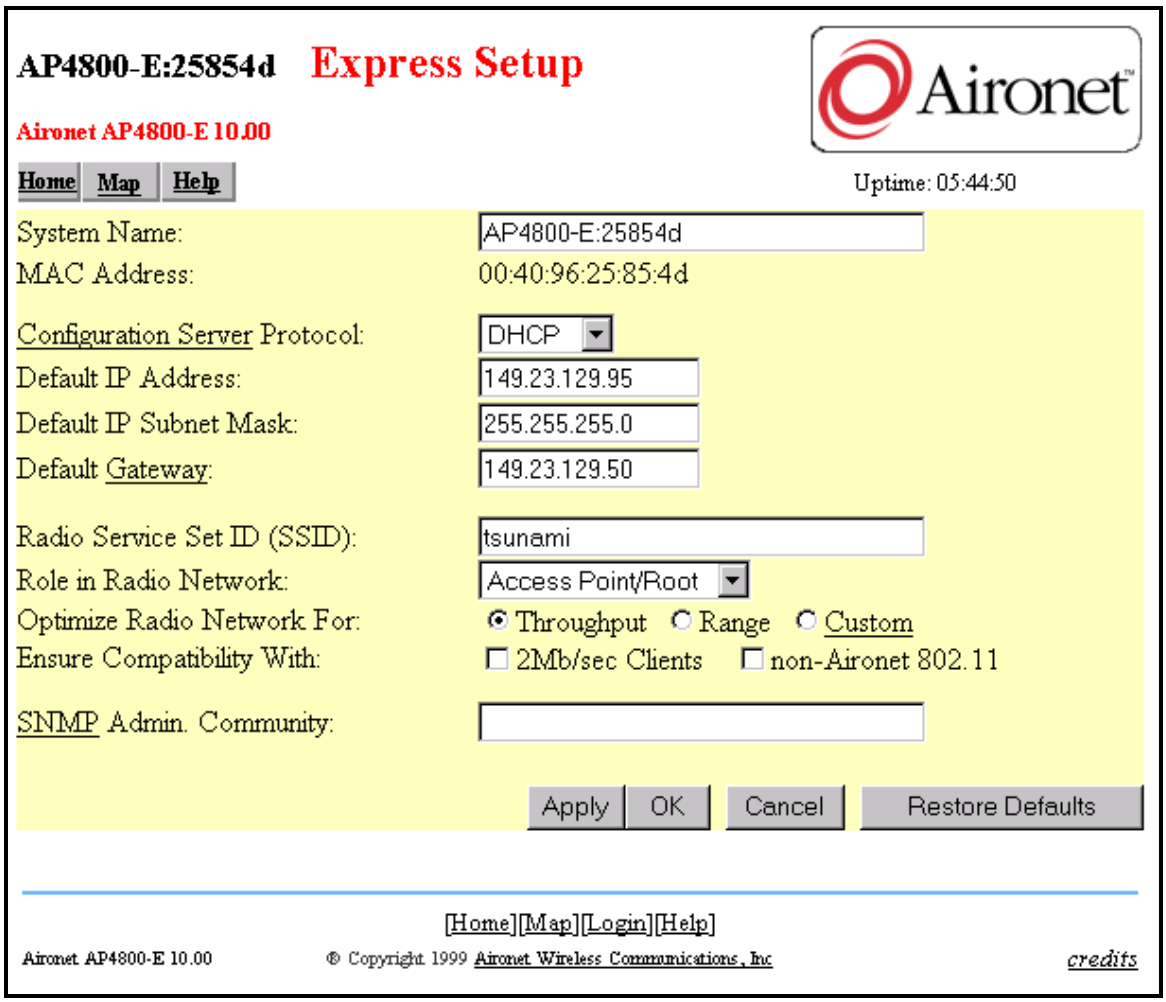
Express Setup

Navigation

Summary Status > Setup > Express Setup > Express Setup

Security

Changes to this page require an Administrator with Identity and Write capabilities. Incorrect settings on this page can result in loss of network connectivity to the AP.



Express Setup Page

Overview

This page is the basic setup page and is the point of entry for initial AP configuration. This page also allows later changes in configuration following initial setup. The first time the AP is turned on, this is the default web page for the AP. It will remain the default page until a configuration is successfully Applied or OKed.

Settings

System Name
This is the name of the system that appears in the titles of browser pages.

MAC Addr.
The Media Access Control address is a unique serial number permanently assigned by the manufacturer.

Configuration Server Protocol
This setting must match the network's method of IP address assignment. Click the Configuration Server link to jump to the Boot Server Setup page.

None
The network does not have an automatic system for IP address assignment.

BOOTP
With Boot Protocol, IP addresses are hard-coded based on MAC addresses.

DHCP
With Dynamic Host Configuration Protocol, IP addresses are "leased" for predetermined periods of time.

⚠ Default IP Address
This field allows the assignment or change of the Internet Protocol (IP) address of a station. The significance of such a change depends on whether or not DHCP is enabled for the network. If DHCP is not enabled, this field is the IP address. If DHCP is enabled, this field will only provide the IP address if no DHCP server responds with an IP address for the AP.

⚠ Default IP Subnet Mask
The number used to identify the subnetwork, so that the IP address can be recognized on the LAN. If DHCP is not enabled, this field is the subnet mask. If DHCP is enabled, this field will only provide the subnet mask if no DHCP server responds to the AP's DHCP request.

⚠ Default Gateway
Insert the IP address of your default internet gateway here. The entry 255.255.255.255 indicates no gateway. Clicking on the link will take you to the Routing Setup page.

Radio Service Set ID (SSID)
A unique identifier that stations must use to be able to communicate with an AP. The SSID can be any alphanumeric entry up to a maximum of 32 characters.

You can enter non-ASCII characters in the SSID by typing a backslash (\ ), a lower-case x, and the characters to represent the non-ASCII character. For example, \xbd inserts the symbol ½.

Settings (continued)

Role in Radio Network
This pull-down menu allows you to select the role of this station:

Access Point/Root
A wireless LAN transceiver that connects an Ethernet network with wireless client stations. All APs should be at this setting.

Repeater/Non-Root
A station (typically an Access Point) that transfers data between a client and another Access Point. Use this setting for Access Points *not* connected to an Ethernet network.

Client/ Non-root
A station with a wireless connection to an AP. Use this setting for diagnostics such as testing against another AP.

Optimize Radio Network For
This field offers three choices for optimizing the performance of the network. Selecting either Throughput or Range will maximize either data volume or operating range with a possible trade off of the opposing parameter. Clicking on the Custom link will take you to the PC4800 Hardware page that offers a range of specific parameter settings.

Ensure Compatibility With
IEEE 802.11 is the industry wireless networking standard. If your network contains Aironet's 2Mbps stations, choose 2Mb/sec Clients to ensure operating compatibility. Choose non-Aironet 802.11 if there are non-Aironet devices in the network.

SNMP Admin. Community
To use Simplified Network Management Protocol, you may enter an administrator community name here. Clicking on the link will take you to the SNMP Setup page. You can edit other SNMP settings there. Additional communities can be configured via the User Manager.

Action Buttons
This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply
After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the main Setup page.

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Action Buttons (continued)

Restore Defaults

Press to change all settings on this page back to the factory default settings.

Console Screen

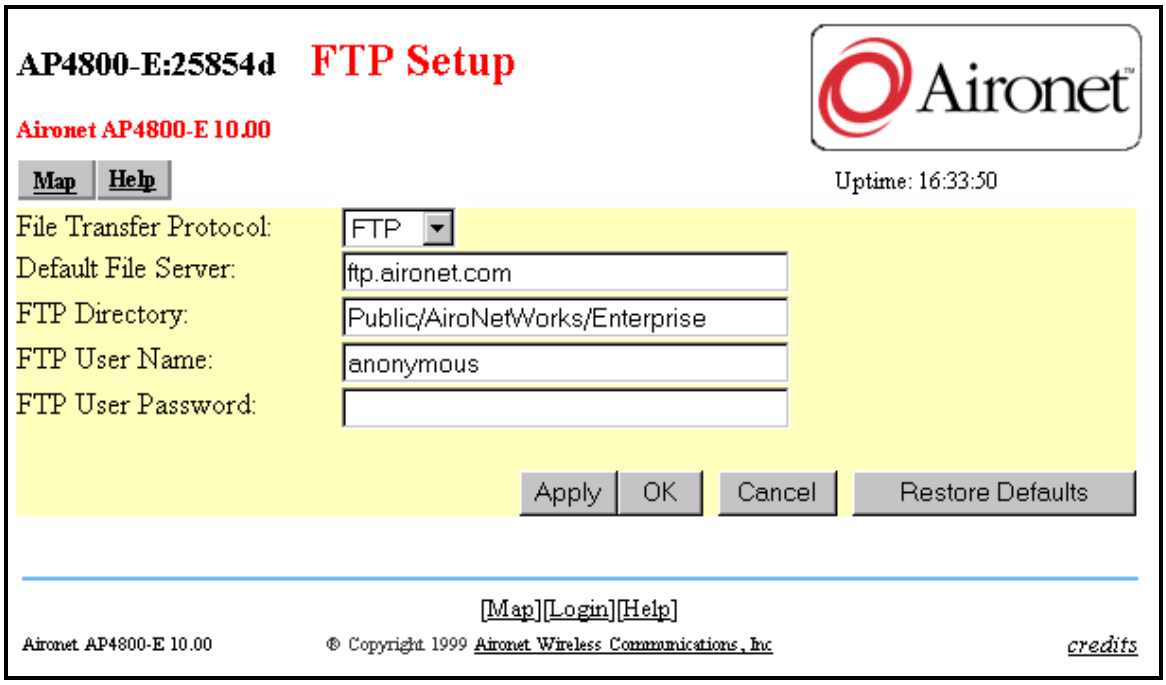
```
AP4800-E:25854d              Express Setup              Uptime: 16:30:58

  System [Name               ][AP4800-E:25854d                 ]
 [Terminal Type              ][ANSI    ]
  MAC Address                : 00:40:96:25:85:4d
  Config. Server [Protocol   ][DHCP ]
  IP [Address                ][149.23.129.95  ]
  IP [Subnet Mask            ][255.255.255.0  ]
  Default [Gateway           ][149.23.129.50  ]

 [Radio Service Set ID (SSID)][tsunami                        ]
 [Role in Radio Network      ][Access Point/Root]
 [Optimize Radio Network For ][Throughput]  [Hw Radio]
  Ensure Compatibility With:  [2Mb/sec Clients][_]   [non-Aironet 802.11][_]


 [SNMP Admin. Community      ][                               ]

 [Apply] [OK]   [Cancel] [Restore Defaults]
_____________________________
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]

:Back, ^R, =, <RETURN>, or [Link Text]:
```

Express Setup - Console Screen Version

FTP Setup

Navigation
Summary Status > Setup > Services/FTP > FTP Setup

Security
Changes to this page require an Administrator with Write capabilities.



FTP Setup Page

Overview
This is a Services Setup page that controls use of File Transfer Protocol. All non-browser file transfers are governed by settings on this page.

Settings

File Transfer Protocol
In selecting the network protocol, choose between FTP and TFTP (trivial file transfer protocol) TFTP is a slower, low-security protocol that requires no user name or password.

Default File Server
Enter the IP address where the AP should look for FTP files.

FTP Directory
Enter the directory on the server where FTP files are located.

FTP User Name
Enter the user name assigned to your FTP server. This field is not needed if TFTP has been selected.

Settings (continued)

FTP User Password
Enter the password associated with the user name. This field is not needed if TFTP has been selected.

Action Buttons
This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

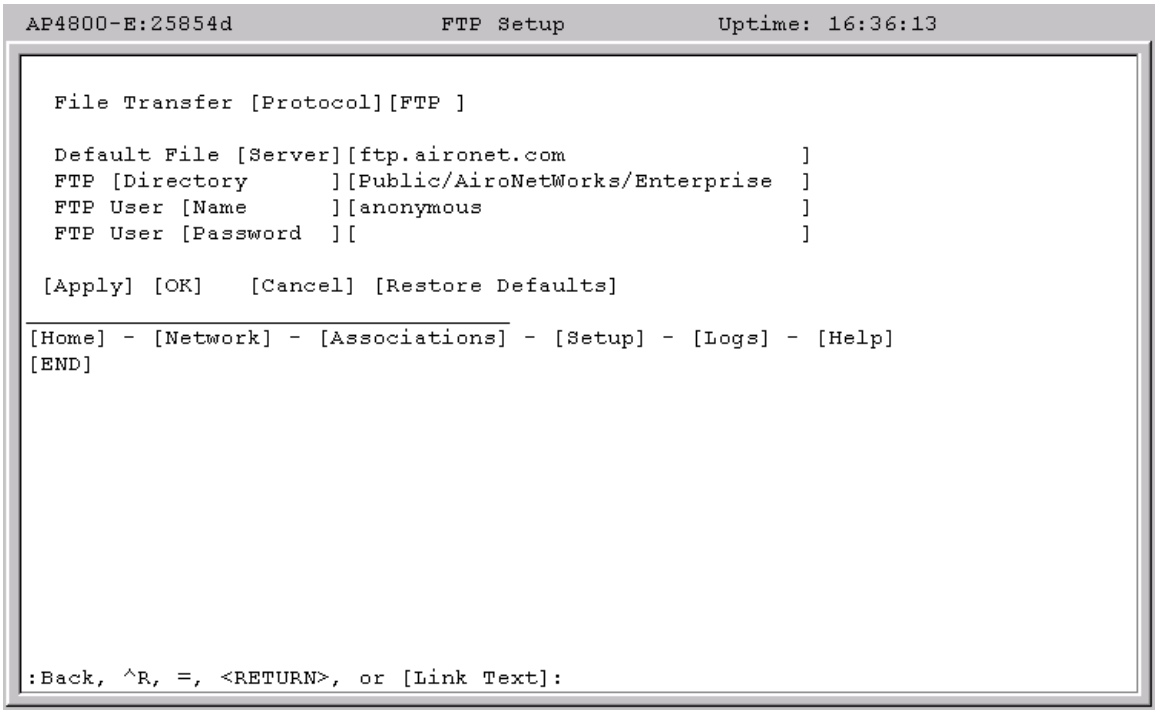
Apply
After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the main Setup page.

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d FTP Setup Uptime: 16:36:13
File Transfer [Protocol][FTP]
Default File [Server][ftp.aironet.com]
FTP [Directory][Public/AiroNetWorks/Enterprise]
FTP User [Name][anonymous]
FTP User [Password][ ]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

FTP Setup - Console Screen Version

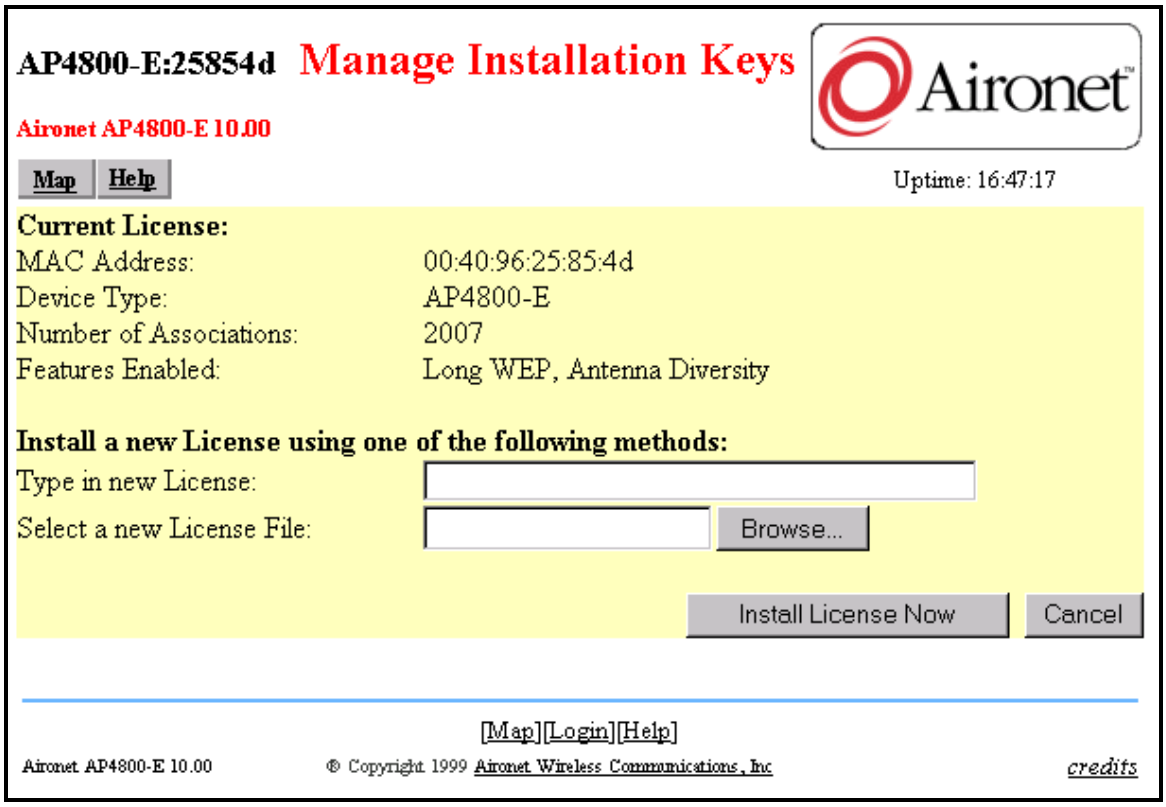
Manage Installation Keys

Navigation

Summary Status > Setup > Services: Aironet Services > Aironet Services Setup > Manage Installation Keys > Manage Installation Keys

Security

Changes on this page require an Administrator with Identity capabilities.



Manage Installation Keys Page

Overview

Use this page to review specifications of the current Aironet software license and to install a new license.

Settings

Current License

This section is an information summary about the software license currently installed on this AP.

MAC Address

The Media Access Control address is a unique serial number permanently assigned by Aironet.

Current License (continued)

Device Type
The full product name.

Number of Associations
The maximum number of stations that can be associated with this AP. Note that this is the *licensed* number of stations that can be associated with this AP; the radio hardware can further limit this number.

Features Enabled
This line lists the software features that are enabled on your AP. Among many options, three of the more commonly selected capabilities are:

Antenna Diversity: Two antennas for improved data reception and transmission

RIP: Routing Information Protocol (used by Bridges only)

Long WEP: Encryption security system

Install a new License using one of the following methods
This section selects one of two ways to update the Aironet software license.

Type in new License
Enter the complete alphanumeric license key.

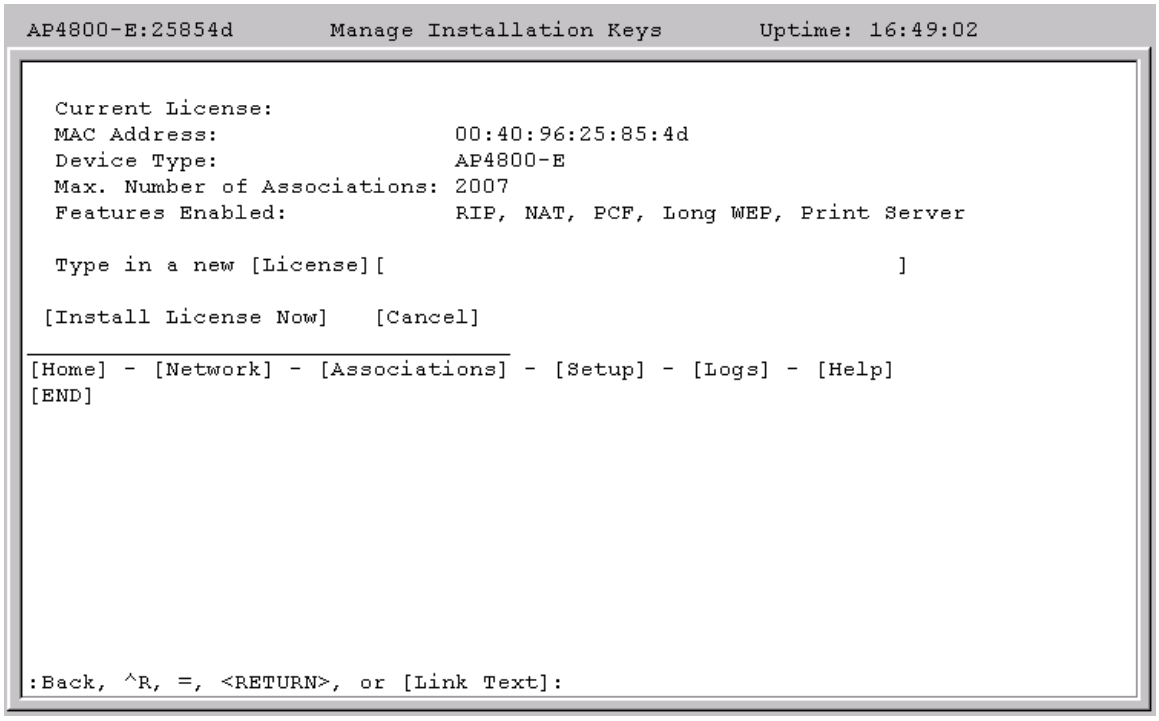
Select a new License File
This method allows you to browse your hard drive or mapped network drives to find the file containing the license key.

Action Buttons
Two action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing Install License Now but not the Cancel button.

Install License Now
After entering new information, press Install License Now to activate the new settings. The browser will remain on this page.

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Console Screen


AP4800-E:25854d Manage Installation Keys Uptime: 16:49:02
Current License:
MAC Address: 00:40:96:25:85:4d
Device Type: AP4800-E
Max. Number of Associations: 2007
Features Enabled: RIP, NAT, PCF, Long WEP, Print Server
Type in a new [License][ ]
[Install License Now] [Cancel]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Manage Installation Keys - Console Screen Version

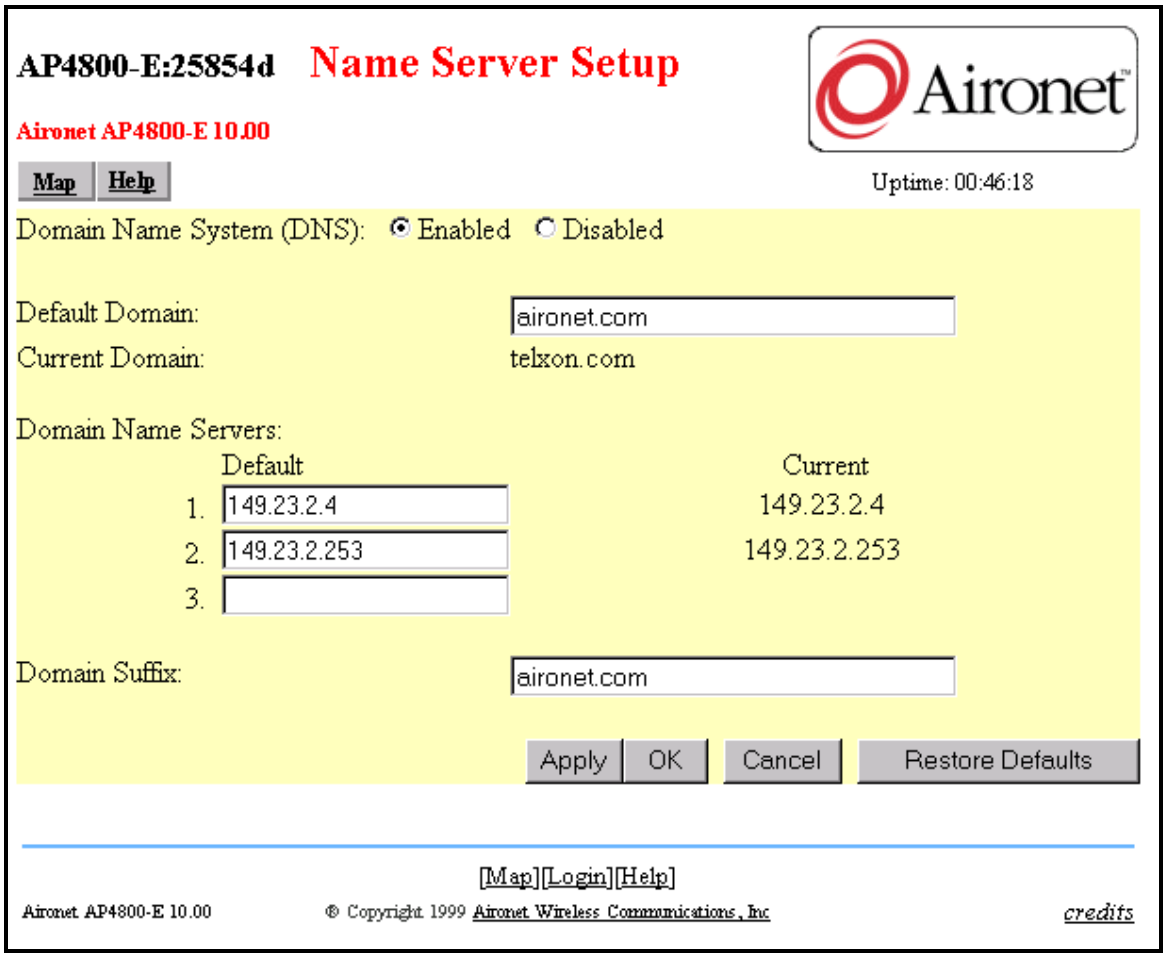
Name Server Setup

Navigation

Summary Status > Setup > Services/Name Server > Name Server Setup

Security

Changes to this page require an Administrator with Write capabilities.



Name Server Setup Page

Overview

Domain Name Systems provide direct correspondence between IP addresses and domain names. This page is used to configure this AP to work with your network's Domain Name Server(s).

Settings

Domain Name System (DNS)

If you have a DNS, set this option to Enabled for the AP to function with this service.

Settings (continued)

Default Domain
Enter the name of your network's IP domain, such as "mycompany.com".

Current Domain
The domain which is serving your AP. This domain name might differ from the default domain if, on the Boot Server Setup page, you have DHCP set as the Configuration Server Protocol, but you have selected No for the setting "Use previous Configuration Server settings when no server responds?"

Domain Name Servers (Default)
Enter the names of up to three domain name servers.

Domain Name Servers (Current)
These are the domain name servers currently referenced by your AP.

Domain Suffix
Enter a portion of the full name of a station in the domain, which you wish trimmed for display purposes. For example, in the domain "mycompany.com", the full name of a computer might be "mycomputer.mycompany.com". With domain suffix set to "mycompany.com", the computer's name would be displayed as just "mycomputer". Default is ".domain name".

Action Buttons
This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

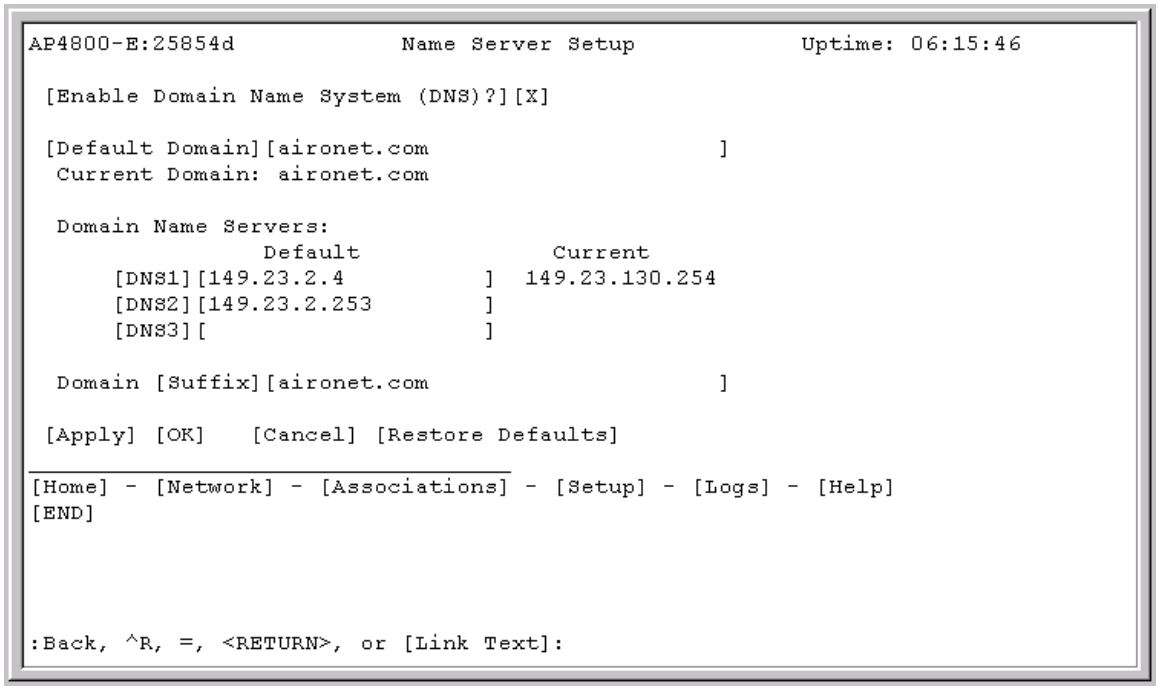
Apply
After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the main Setup page.

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d Name Server Setup Uptime: 06:15:46
[Enable Domain Name System (DNS)?][X]
[Default Domain][aironet.com]
Current Domain: aironet.com
Domain Name Servers:
Default Current
[DNS1][149.23.2.4] 149.23.130.254
[DNS2][149.23.2.253]
[DNS3][ ]
Domain [Suffix][aironet.com]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Name Server Setup - Console Screen Version

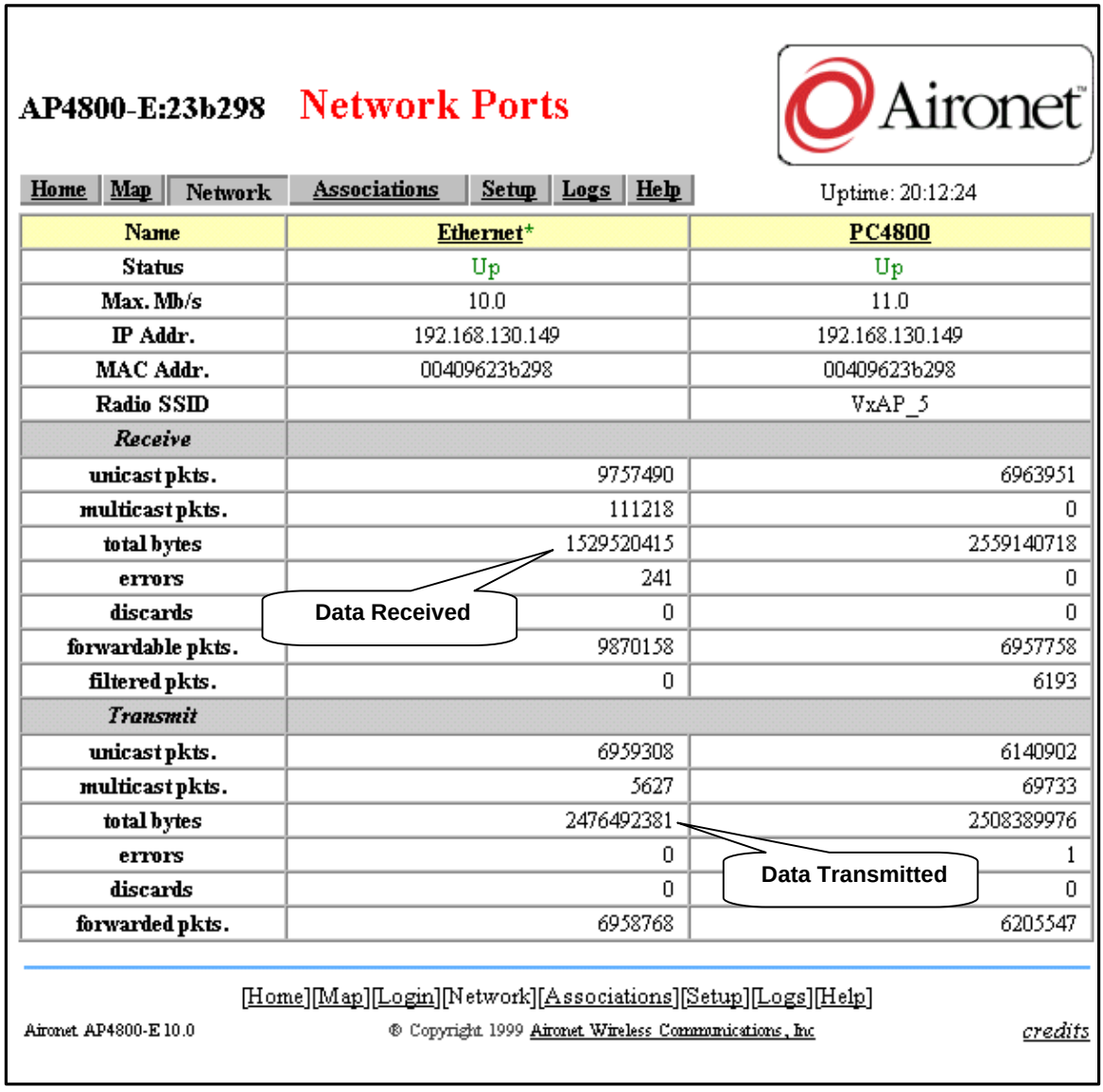
Network Ports

Navigation

Summary Status > Network > Network Ports

Security

This page requires Read capabilities.



Name	Ethernet*	PC4800
Status	Up	Up
Max. Mb/s	10.0	11.0
IP Addr.	192.168.130.149	192.168.130.149
MAC Addr.	00409623b298	00409623b298
Radio SSID		VxAP_5
Receive		
unicast pkts.	9757490	6963951
multicast pkts.	111218	0
total bytes	1529520415	2559140718
errors	241	0
discards	0	0
forwardable pkts.	9870158	6957758
filtered pkts.	0	6193
Transmit		
unicast pkts.	6959308	6140902
multicast pkts.	5627	69733
total bytes	2476492381	2508389976
errors	0	1
discards	0	0
forwarded pkts.	6958768	6205547

Network Ports Page

Overview

This page presents key information on the network ports of the station listed in the page title. The sample screen above shows the Ethernet and radio ports of the device AP4800-E:23b298. This Access Point has been assigned the MAC address 00409623b298. The two ports are the wired port to the Ethernet network and the AP's radio port that communicates with wireless stations associated with this Access Point.

Port Name, Status and Identification

The top six lines in each column report the name, operational status and the identifying addresses of the port. See the Express Setup page for information on device and port identification [Summary Status > Setup > Express Setup].

Name

Displays the name of the network interface port. An asterisk (*) next to the name identifies the port as the primary port for the AP. Use the Identification page for either port to select the primary port [Summary Status > Setup > Ethernet or PC4800 > Identification].

Status

Displays one of three possible operating states for the port:

Up

The port is operating properly.

Down

The port is not operating.

Error

The port is in operation but is presently in an error condition.

Max. Mb/s

Maximum rate of data transmission in megabits per second.

IP Addr.

Internet protocol address of the device. In advanced bridge configurations, separate ports of a single device could carry separate IP addresses. Use the Express Setup page to assign or change the IP address [Summary Status > Setup > Express Setup].

MAC (Media Access Control) Addr.

The Media Access Control (MAC) address is a unique serial number assigned by the manufacturer.

Radio SSID

The Radio Service Set Identifier (SSID) is an identifier that stations must use to be able to communicate with an AP. Enter or change the Radio SSID for the port in the Express Setup page [Summary Status > Setup > Express Setup].

Data Received

The middle portion of each column reports the data traffic received through the AP's port.

Unicast pkts.

The number of packets received in "point-to-point" communication.

Multicast pkts.

The number of packets received that were sent as a transmission to a set of nodes.

Data Received (continued)

Total bytes
Total number of bytes received.

Errors
The number of packets determined to be in error.

Discards
The number of packets discarded by the AP due to errors.

Forwardable pkts.
The number of packets received by the port that was acceptable or passable through the filters.

Filtered pkts.
The number of packets that were stopped or screened by the filters set up on the port.

Data Transmitted

The lower portion of each column reports the data traffic transmitted from the AP's port.

Unicast pkts.
The number of packets transmitted in "point-to-point" communication.

Multicast pkts.
The number of packets transmitted that were sent as a transmission to a set of nodes.

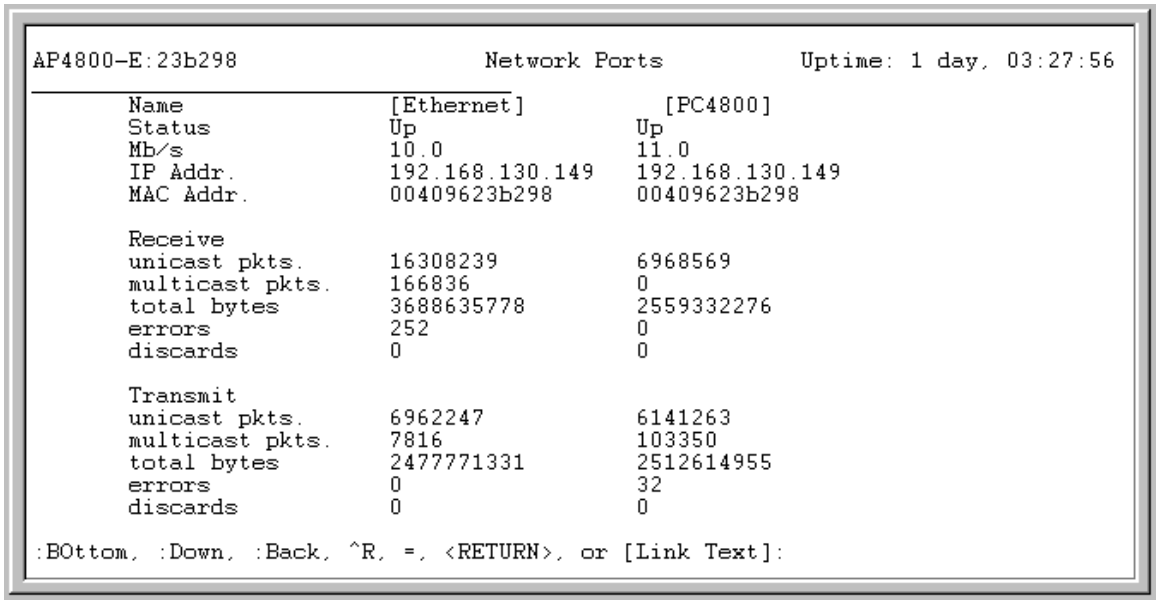
Total bytes
Total number of bytes transmitted from the port.

Errors
The number of packets determined to be in error.

Discards
The number of packets discarded by the AP due to errors.

Forwarded pkts.
The number of packets transmitted by the port that was acceptable or passable through the filters.

Console Screen



```
AP4800-E:23b298                  Network Ports          Uptime: 1 day, 03:27:56
_____________________________
       Name                 [Ethernet]          [PC4800]
       Status               Up                  Up
       Mb/s                 10.0                11.0
       IP Addr.             192.168.130.149     192.168.130.149
       MAC Addr.            00409623b298        00409623b298

       Receive
       unicast pkts.        16308239            6968569
       multicast pkts.      166836              0
       total bytes          3688635778          2559332276
       errors               252                 0
       discards             0                   0

       Transmit
       unicast pkts.        6962247             6141263
       multicast pkts.      7816                103350
       total bytes          2477771331          2512614955
       errors               0                   32
       discards             0                   0

:BOttom, :Down, :Back, ^R, =, <RETURN>, or [Link Text]:
```

Network Ports - Console Screen Version

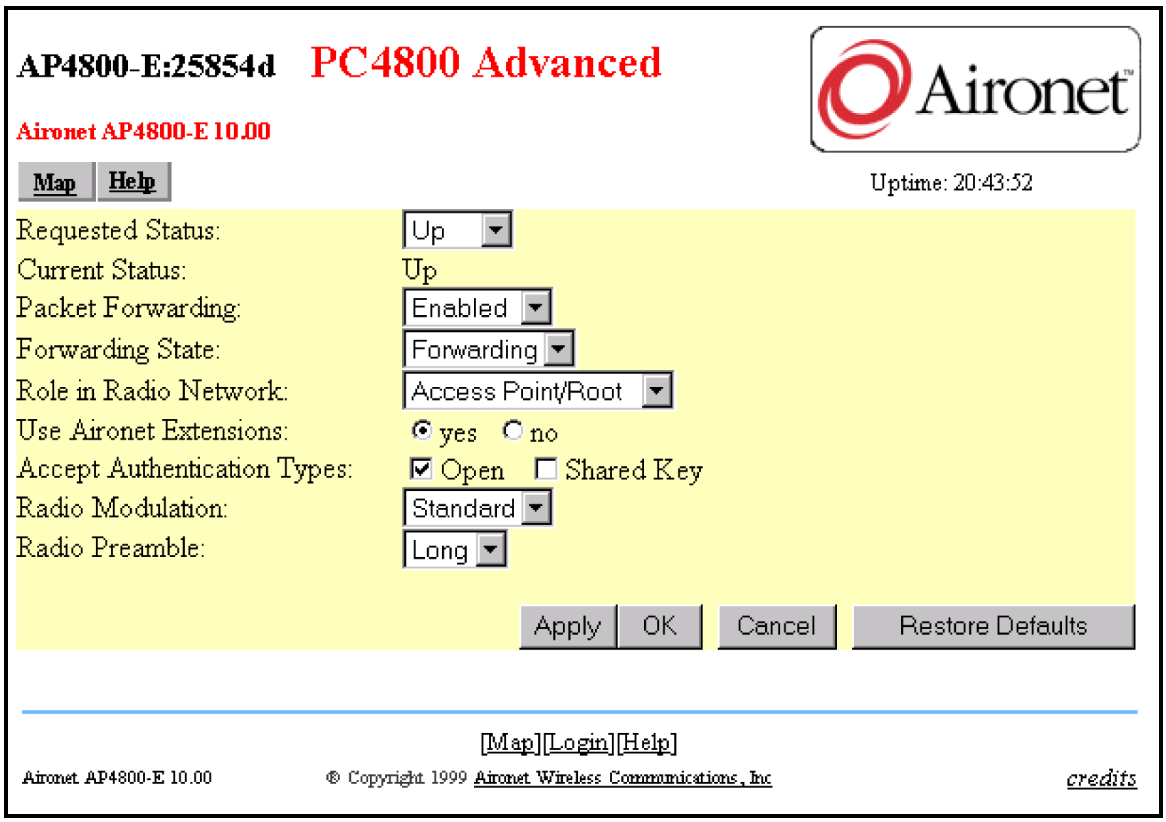
PC4800 Advanced

Navigation

Summary Status > Setup > Network Ports: PC4800/Advanced > PC4800 Advanced

Security

Changes to this page require an Administrator with Identity and Write capabilities. The setting options can have the effect of removing a station from the network or blocking traffic.



PC4800 Advanced Page

Overview

Use this page to change the operational status of the radio port of the AP. As an aid in troubleshooting network problems, setting options on this page can be helpful in making temporary changes in port status.

Settings

Requested Status

Read and set the operating condition of the port, either "up" or "down."

Settings (continued)

Current Status
Displays the current status, "up" or "down," of the radio port. This field can also display "error," meaning that the port is operating but is in an error condition.

⚠ Packet Forwarding
Read and set the forwarding capability of the port, either "Enabled" or "Disabled". If Disabled, data will not move between the Ethernet and the radio. If Enabled, then the condition is determined by the setting for the Forwarding State.

⚠ Forwarding State
Read and set the immediate functioning state with seven possible conditions:

Unknown
The state cannot be determined.

Disabled
Forwarding capabilities are disabled.

Blocking
The port is blocking transmission. This is the state when no stations are associated.

Listening
This setting only applies to wireless Bridges, not AP's.

Learning
This setting only applies to wireless Bridges, not AP's.

Forwarding
The port is operating and forwarding packets. This is the default setting.

Broken
This state reports radio failure.

⚠ Role in Radio Network
The pull-down menu allows one of two selections for the role of this port:

Access Point/Root
A wireless LAN transceiver that connects an Ethernet network with wireless client stations.

Repeater/Non-Root
A station (typically an Access Point) that transfers data between a client and another Access Point. Use this setting for Access Points *not* connected to an Ethernet network.

Client/Non-root
A station with a wireless connection to the AP. This setting can be useful when using an AP for diagnostics on another AP.

⚠ Use Aironet Extensions
Choose yes or no to use Aironet 802.11 extensions. These extensions improve the AP's ability to understand the capabilities of clients associated with it.

Settings (continued)

Accept Authentication Types
Select Open, Shared Key, or both to set the authentications the AP will recognize.

Open
This default setting allows any device, regardless of its WEP keys, to authenticate and then attempt to associate.

Shared Key
This default setting tells the AP to send a plain-text, shared-key query to any device attempting to associate with the AP. This query may leave the AP open to a known-text attack from intruders, however, and is therefore not as secure as the Open setting.

Radio Modulation
The pull-down menu allows one of two selections for the type of radio transmission:

Standard
This default setting is the current 802.11 standard.

MOK
MOK modulation was used before the IEEE finished the high-speed 802.11 standard.

Radio Preamble
The pull-down menu allows you to select a long or short radio preamble:

Long
A long preamble ensures compatibility between the Access Point and all earlier models of PC4800 TurboDS Wireless LAN adapters (PC4800, PC4800A, and PC4800B).

Short
A short preamble improves throughput performance. Aironet's PC4800B Wireless LAN Adapter supports short preambles. Earlier models of Aironet's Wireless LAN Adapter (PC4800 and PC4800A) require long preambles.

Action Buttons
This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply
After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the main Setup page.

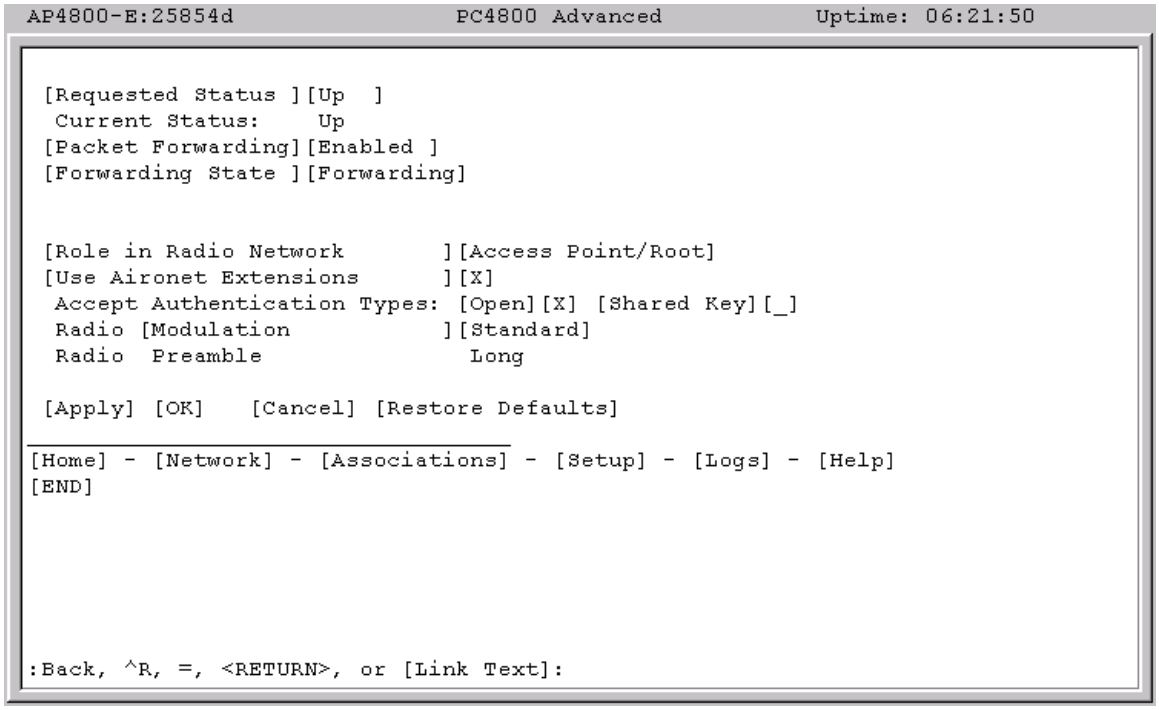
Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Settings (continued)

Restore Defaults

Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d PC4800 Advanced Uptime: 06:21:50
[Requested Status][Up]
Current Status: Up
[Packet Forwarding][Enabled]
[Forwarding State][Forwarding]
[Role in Radio Network][Access Point/Root]
[Use Aironet Extensions][X]
Accept Authentication Types: [Open][X] [Shared Key][_]
Radio [Modulation][Standard]
Radio Preamble Long
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

PC4800 Advanced - Console Screen Version

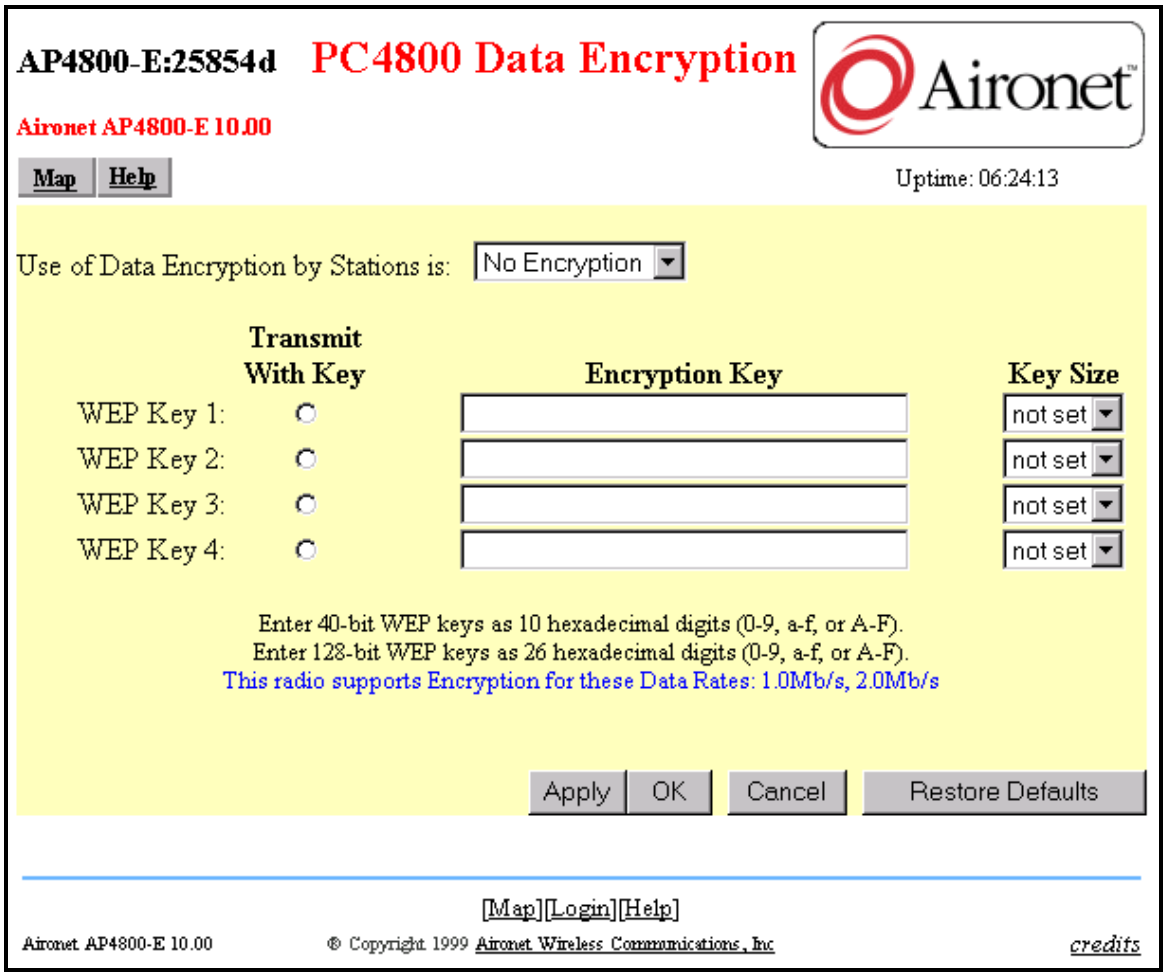
PC4800 Data Encryption

Navigation

Summary Status > Setup > PC4800/Hardware > Radio Data Encryption (WEP) > PC4800 Data Encryption
Or
Summary Status > Setup > Security > Radio Data Encryption (WEP) > PC4800 Data Encryption

Security

Changes to this page require an Administrator with Identity and Write capabilities.



PC4800 Data Encryption Page

Overview

This page allows you to create up to four data encryption keys and enable WEP to keep your data secure.

Settings

Use of Data Encryption by Stations is:

Use this setting to choose whether clients must use data encryption when communicating with this Access Point. The pull-down menu lists three options:

No Encryption (default)

Requires that clients communicate with this Access Point without any data encryption.

Optional

Allows clients to communicate with this Access Point either with or without data encryption.

Full Encryption

Requires clients to use data encryption when communicating with this Access Point. Clients not using data encryption will not be allowed to communicate.

You must set a WEP key before you enable use of encryption.

Transmit With Key

These buttons allow you to select the key this Access Point will use when transmitting data. Only one key can be selected at a time. All set keys can be used to receive data. The selected key must already be set before it can be specified as the Transmit key.

Encryption Key

These fields allow you to enter the WEP keys. Type ten hexadecimal digits (any combination of 0-9, a-f, or A-F) for 40-bit WEP keys. Type 26 hexadecimal digits (any combination of 0-9, a-f, or A-F) for 128-bit WEP keys.

To protect WEP key security, existing WEP keys do not appear in the entry fields. You can write over existing keys, but you cannot edit or delete them.

Key Size

Use this setting to set the keys to either 40 or 128-bit WEP. If "not set" appears for this selection, the key has not been set. **Note:** You cannot delete a key by selecting "not set."

Action Buttons

This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply

After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK

This button both applies the new settings and moves the browser back to the main Setup page.

Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values and returns you to the main Setup page.

Action Buttons, continued

Restore Defaults

Click this button to change all settings on this page back to the factory default settings.

Console Screen

```
AP4800-E:25854d              Data Encryption              Uptime: 21:10:38

[Use of Data Encryption by Stations][No Encryption  ]

Transmit With Key             Encryption Key (EK)              Key Size (KS)
 WEP Key [1](*)     [EK1][                                ]    [KS1][not set]
 WEP Key [2](_)     [EK2][                                ]    [KS2][not set]
 WEP Key [3](_)     [EK3][                                ]    [KS3][not set]
 WEP Key [4](_)     [EK4][                                ]    [KS4][not set]

Enter 40-bit WEP keys as 10 hexadecimal digits (0-9, a-f, or A-F).
Enter 128-bit WEP keys as 26 hexadecimal digits (0-9, a-f, or A-F).
This radio supports Encryption for these Data Rates:
 1.0Mb/s, 2.0Mb/s



 [Apply] [OK]   [Cancel] [Restore Defaults]
_____________________________________
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]


:Back, ^R, =, <RETURN>, or [Link Text]:
```

PC4800 Data Encryption - Console Screen Version

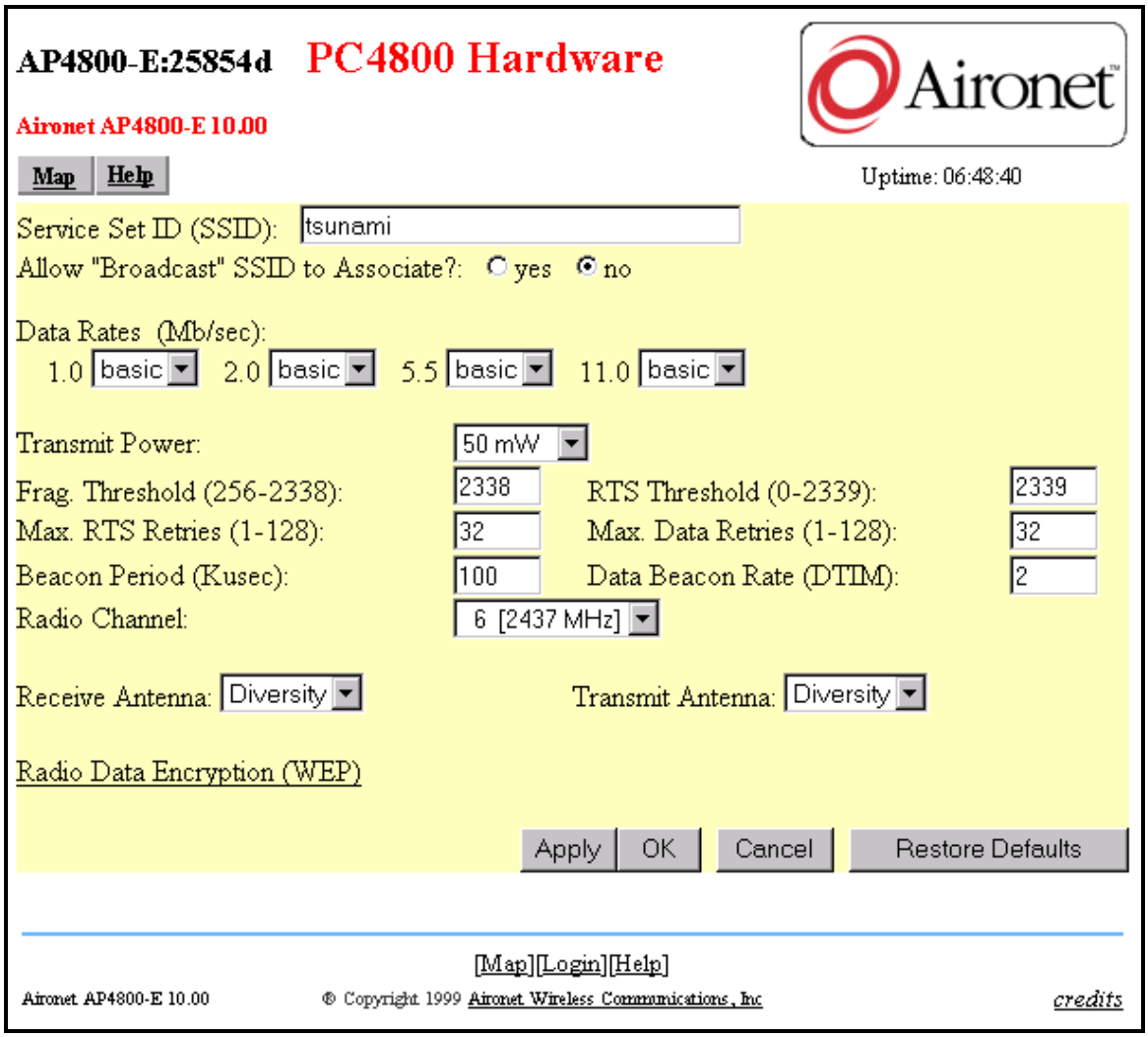
PC4800 Hardware

Navigation

Summary Status > Setup > Network Ports: PC4800/Hardware > PC4800 Hardware

Security

Changes to this page require an Administrator with Identity and Write capabilities.



PC4800 Hardware Page

Overview

This page sets a range of values, specifications, and data rates for the radio port of the AP.

Settings

Service Set ID (SSID)
An identifier that stations must use to be able to communicate with an AP. Aironet recommends assigning or changing the SSID on the Express Setup page [Summary Status > Setup > Express Setup].

You can enter non-ASCII characters in the SSID by typing a backslash (\ ), a lower-case x, and the characters to represent the non-ASCII character. For example, \xbd inserts the symbol ½.

Allow "Broadcast" SSID to Associate?
Allows you to choose whether devices that do not specify an SSID (devices that are "broadcasting" in search of an AP to associate with) are allowed to associate with the AP.

Yes
The default setting; allows devices that do not specify an SSID (devices that are "broadcasting" in search of an AP to associate with) to associate with the AP.

No
Devices that do not specify an SSID (devices that are "broadcasting" in search of an AP to associate with) are *not* allowed to associate with the AP. The SSID used by the client device must match that of the AP.

Data Rates (Mb/sec)
The range of data transmission rates in megabits per second. The system will always attempt transmission at the highest rate selected. In case of obstacles or interference, the system will step down to the highest rate that will allow data transmission. For each of four rates, the pull-down menu lists three options:

Basic (default)
Allows transmission at this rate for all packets, both unicast and multicast. At least one data rate must be set to Basic. Low Basic rates slow performance but increase range.

Yes
Allows transmission at this rate for unicast packets only.

No
Does not allow transmission at this rate.

Transmit Power
The power level of radio transmission. This setting is government-regulated and must conform to established standards for the country of operation. In general, regulations define the highest acceptable power level. To reduce interference or conserve power, users can move to a lower setting.

Frag. Threshold (256-2338)
The size at which packets will be fragmented (i.e., sent as several pieces instead of as one block). Choose a setting within the range of 256 to 2338 bytes. Use a low setting in areas where communication is poor or where there is a great deal of radio interference.

Settings (continued)

RTS Threshold (0-2339)
The packet size at which the AP will issue a Request to Send before sending the packet. A low RTS Threshold setting can be useful in areas where many clients are associating with the AP, or in areas where the clients are far apart and can "hear" only the AP, and not each other.

Max. RTS Retries (1-128)
The maximum number of times the AP will issue a Request to Send before stopping the attempt to send the packet from the radio port.

Max. Data Retries (1-128)
The maximum number of attempts to send a packet before giving up and dropping the packet.

Beacon Period (Kusec)
The amount of time (in Kusec) between beacons.

Data Beacon Rate (DTIM)
This setting, always a multiple of the beacon period, determines how often the beacon contains a traffic indicator map (TIM). The TIM tells power-save clients that a packet is waiting for them.

Radio Channel
The factory setting for Aironet wireless LAN systems is Radio Channel 6 transmitting at 2437 MHz. To overcome an interference problem, other channel settings are available from the drop-down menu of 10 alternate channels ranging up to 2462 MHz. However, any change could involve corresponding adjustment of other stations. Users should not change any Radio Channel setting without a full understanding of radio system tuning.

Receive Antenna/Transmit Antenna
The two antenna settings each allow three options:

Left
This setting is only used when the AP is installed with separate receive and transmit antennas.

Right
The proper setting for residential, small office and home office use with APs that carry a single antenna. If an AP has only one antenna, this is the only choice.

Diversity
The typical commercial and industrial configuration for APs with two separate antennas.

Radio Data Encryption (WEP)
This link takes you to the Radio Data Encryption page, where you can set up to four data encryption keys and enable WEP.

Action Buttons

This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Apply

After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK

This button both applies the new settings and moves the browser back to the main Setup page.

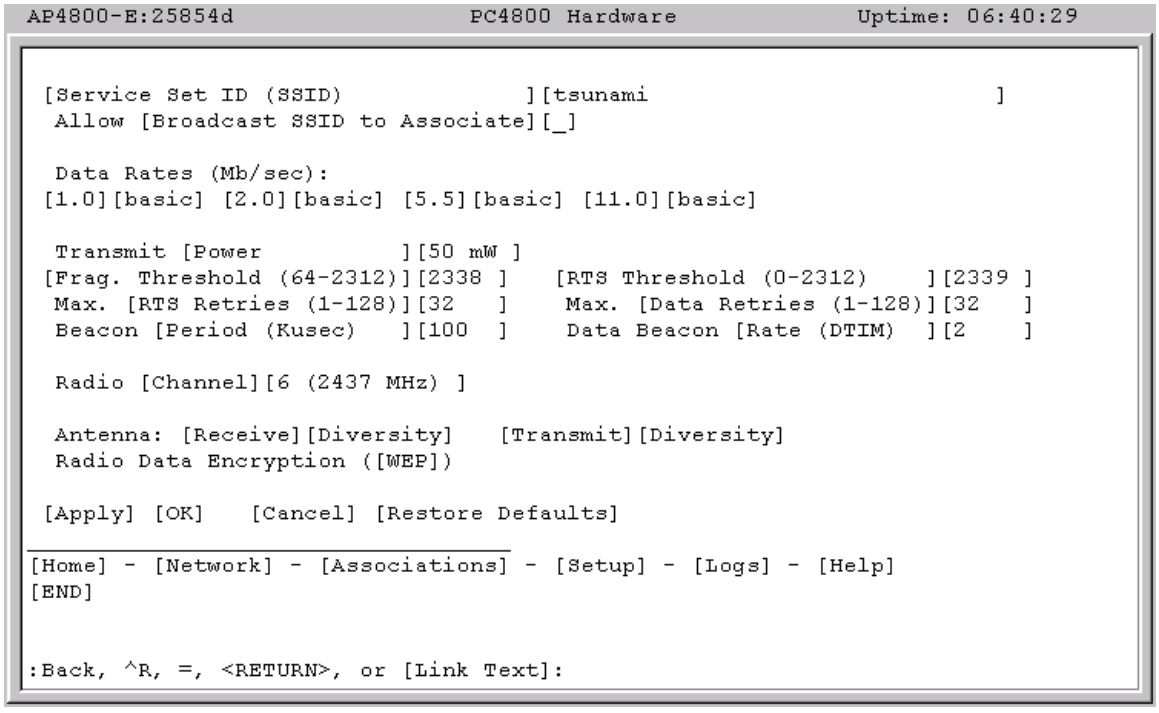
Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults

Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d PC4800 Hardware Uptime: 06:40:29
[Service Set ID (SSID)][tsunami]
Allow [Broadcast SSID to Associate][_]
Data Rates (Mb/sec):
[1.0][basic] [2.0][basic] [5.5][basic] [11.0][basic]
Transmit [Power][50 mW]
[Frag. Threshold (64-2312)][2338] [RTS Threshold (0-2312)][2339]
Max. [RTS Retries (1-128)][32] Max. [Data Retries (1-128)][32]
Beacon [Period (Kusec)][100] Data Beacon [Rate (DTIM)][2]
Radio [Channel][6 (2437 MHz)]
Antenna: [Receive][Diversity] [Transmit][Diversity]
Radio Data Encryption ([WEP])
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

PC4800 Hardware - Console Screen Version

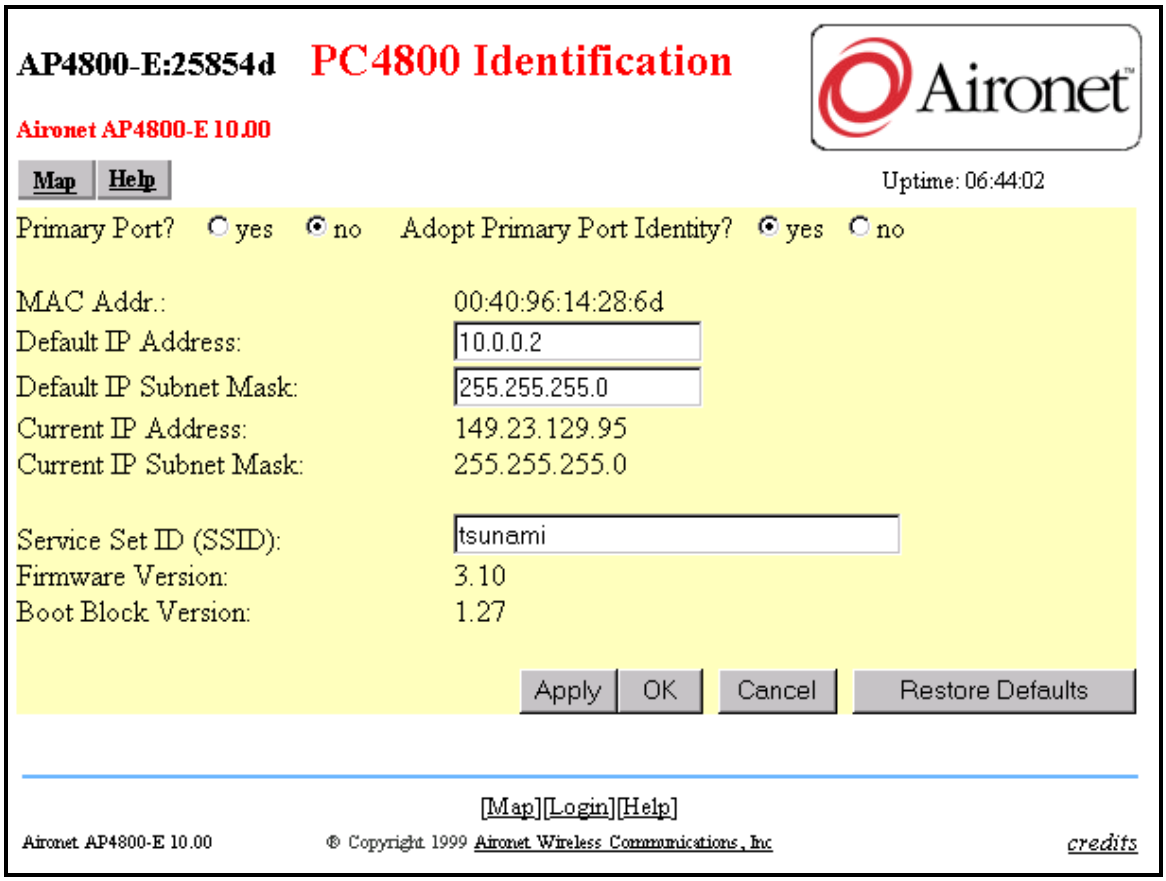
PC4800 Identification

Navigation

Summary Status > Setup > Network Ports/PC4800/Identification > PC4800 Identification

Security

Changes to this page require an Administrator with Identity capabilities.



PC4800 Identification Setup Page

Overview

The Identification page contains the basic locating and identity information for the PC4800 radio port. The PC4800 Identification page differs slightly from the Ethernet port in that it manages the connection with the wireless network.

Primary Port Selection

Two sets of yes/no options allow you to designate this port as the Primary Port of the AP and select whether this port adopts or assumes the identity of the primary port.

Primary Port

Ordinarily, the primary port is the AP's Ethernet port which is connected to the wired LAN. The primary port determines the AP's MAC and IP addresses. For this page which identifies the PC4800 port and not the Ethernet port, the normal setting for this question is "No".

Adopt Primary Port Identity

Indicates whether this port adopts the settings of the Primary Port (MAC and IP addresses).
For this page which identifies the PC4800 port, the normal setting for this question is "Yes."Advanced Bridge configurations sometimes require a setting of "No."

Port Identification

This section is common to all Identification pages. It displays both default and current identification for MAC Address, IP Address and IP Subnet Mask. Changing a default address on the AP can have very serious consequences including the chance of losing network connectivity or forcing a re-boot of the system. See the Express Setup Page for an alternative place to modify device identification [Summary Status > Setup > Express Setup].

Note: Since the PC4800 port normally adopts the Ethernet port settings, "Default" values here are generally ignored and "current" settings come from the Ethernet port.

MAC Address

The Media Access Control (MAC) address is a unique serial number assigned to a device by the manufacturer.

Default IP Address

This field allows the assignment or change of the Internet Protocol (IP) address of a station. The significance of such a change depends on whether or not DHCP is enabled for the network. If DHCP is not enabled, this field is the IP address. If DHCP is enabled, this field will only provide the IP address if no DHCP server responds with an IP address for the AP.

Default IP Subnet Mask

The number used to identify the subnetwork, so that the IP address can be recognized on the LAN. If DHCP is not enabled, this field is the subnet mask. If DHCP is enabled, this field will only provide the subnet mask if no DHCP server responds to the AP's DHCP request.

Current IP Address

This field displays the IP address currently assigned to or used by the device. This will be the same address as the default IP address unless DHCP is enabled. If DHCP is enabled, this field displays the IP address that has been dynamically assigned to the device for the duration of its session on the network and it will be different than the default IP address.

Port Identification (continued)

Current IP Subnet Mask
This field displays the IP subnet mask currently assigned to or used by the device. This will be the same subnet mask as the default subnet mask unless DHCP is enabled. If DHCP is enabled, this will be the subnet mask utilized by the DHCP server.

Service Set ID (SSID)
An identifier of up to 32 characters that other stations must use in order to communicate through this port and Access Point. Changing the SSID on the AP can have serious consequences, including the chance of losing connectivity with the associated stations. See the Express Setup Page for an alternative place to modify device identification. [Summary Status > Setup > Express Setup]

You can enter non-ASCII characters in the SSID by typing a backslash (\ ), a lower-case x, and the characters to represent the non-ASCII character. For example, \xbd inserts the symbol ½.

Firmware Version
Indicates the version level of the network control software on the radio's network interface card.

Boot Block Version
Indicates the version level of the boot block software on the radio's network interface card.

Action Buttons
This set of four action buttons control identification entries. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

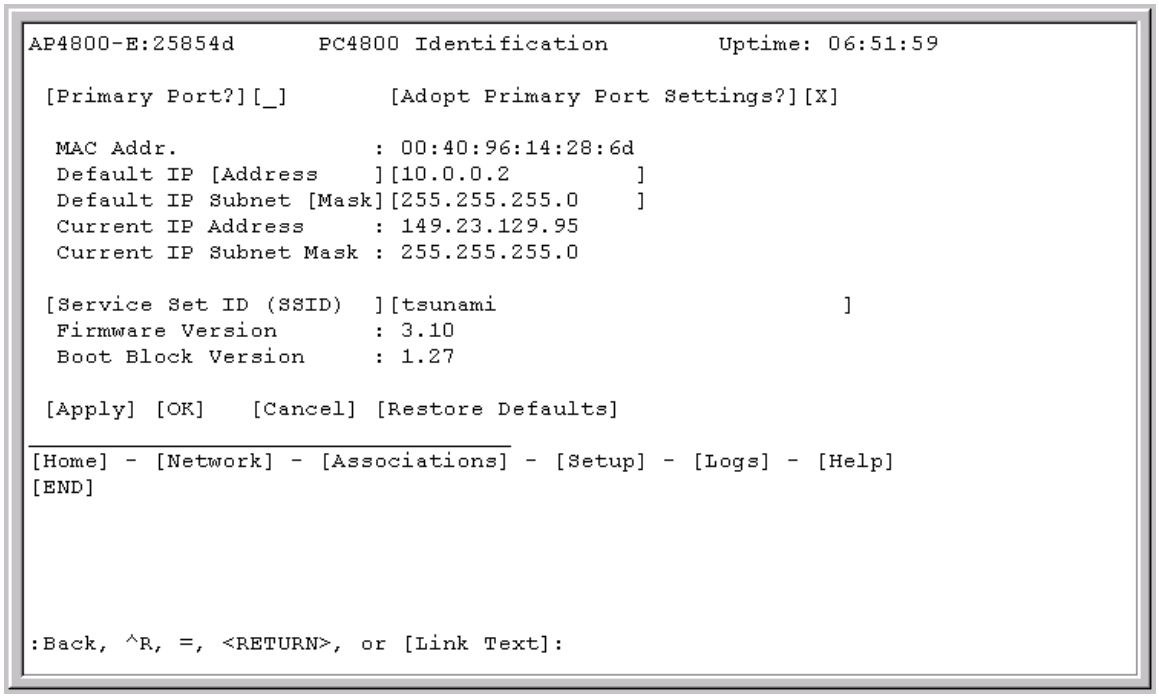
Apply
After entering new settings, press APPLY to activate the new entries. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the previous page.

Cancel
This button cancels entries and returns the settings to the previous stored entries.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d PC4800 Identification Uptime: 06:51:59
[Primary Port?][_] [Adopt Primary Port Settings?][X]
MAC Addr. : 00:40:96:14:28:6d
Default IP [Address][10.0.0.2]
Default IP Subnet [Mask][255.255.255.0]
Current IP Address : 149.23.129.95
Current IP Subnet Mask : 255.255.255.0
[Service Set ID (SSID)][tsunami]
Firmware Version : 3.10
Boot Block Version : 1.27
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

PC4800 Identification - Console Screen Version

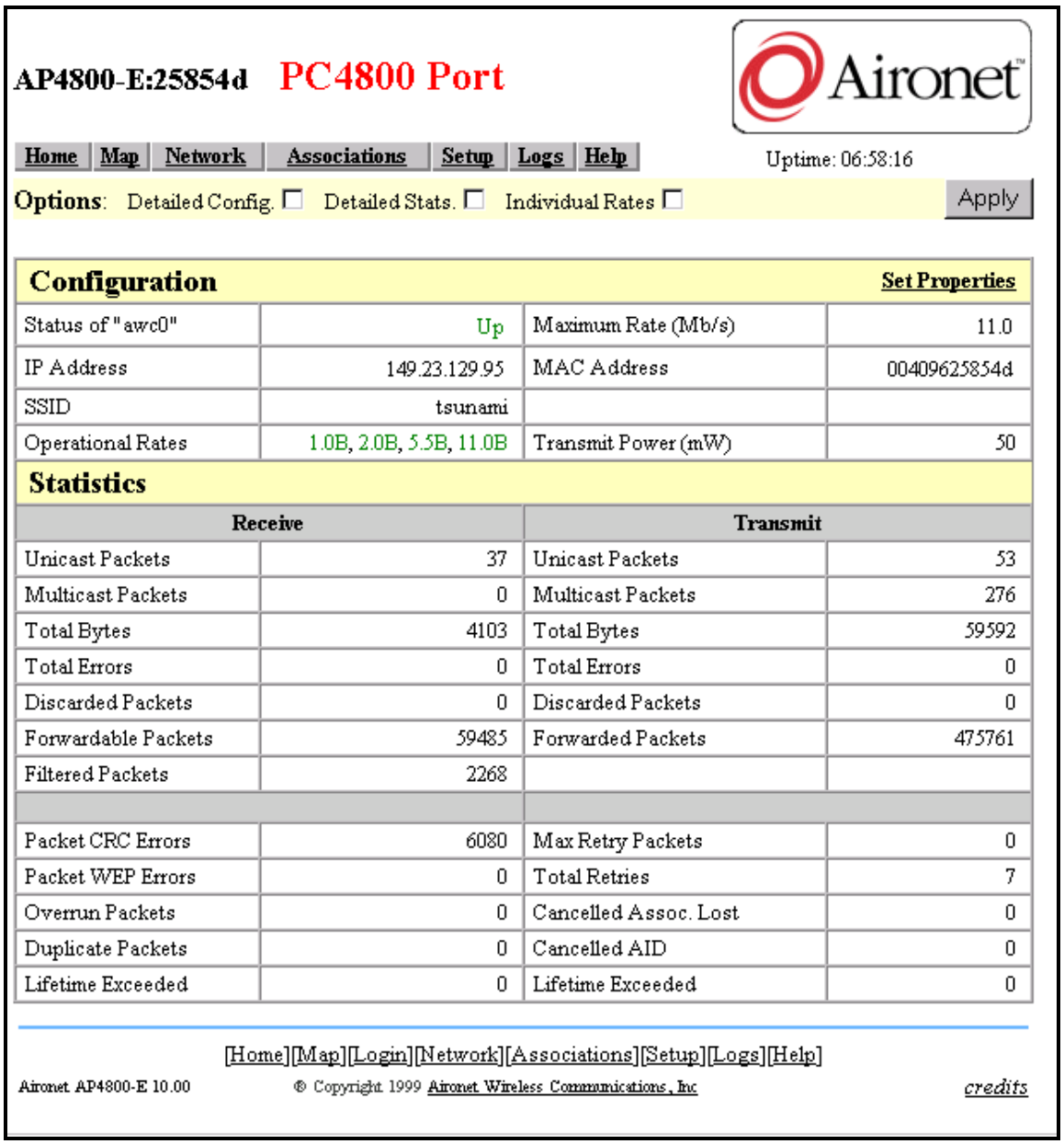
PC4800 Port

Navigation

Summary Status > Network Ports/PC4800 > PC4800 Port

Security

This is a status information page that can be read by all users.



AP4800-E:25854d PC4800 Port

Aironet

Home | Map | Network | Associations | Setup | Logs | Help

Uptime: 06:58:16

Options: Detailed Config. ☐ Detailed Stats. ☐ Individual Rates ☐ Apply

Configuration Set Properties

Status of "awc0"	Up	Maximum Rate (Mb/s)	11.0
IP Address	149.23.129.95	MAC Address	00409625854d
SSID	tsunami		
Operational Rates	1.0B, 2.0B, 5.5B, 11.0B	Transmit Power (mW)	50

Statistics

Receive		Transmit	
Unicast Packets	37	Unicast Packets	53
Multicast Packets	0	Multicast Packets	276
Total Bytes	4103	Total Bytes	59592
Total Errors	0	Total Errors	0
Discarded Packets	0	Discarded Packets	0
Forwardable Packets	59485	Forwarded Packets	475761
Filtered Packets	2268		
Packet CRC Errors	6080	Max Retry Packets	0
Packet WEP Errors	0	Total Retries	7
Overrun Packets	0	Cancelled Assoc. Lost	0
Duplicate Packets	0	Cancelled AID	0
Lifetime Exceeded	0	Lifetime Exceeded	0

[Home][Map][Login][Network][Associations][Setup][Logs][Help]

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PC4800 Port Page

Overview

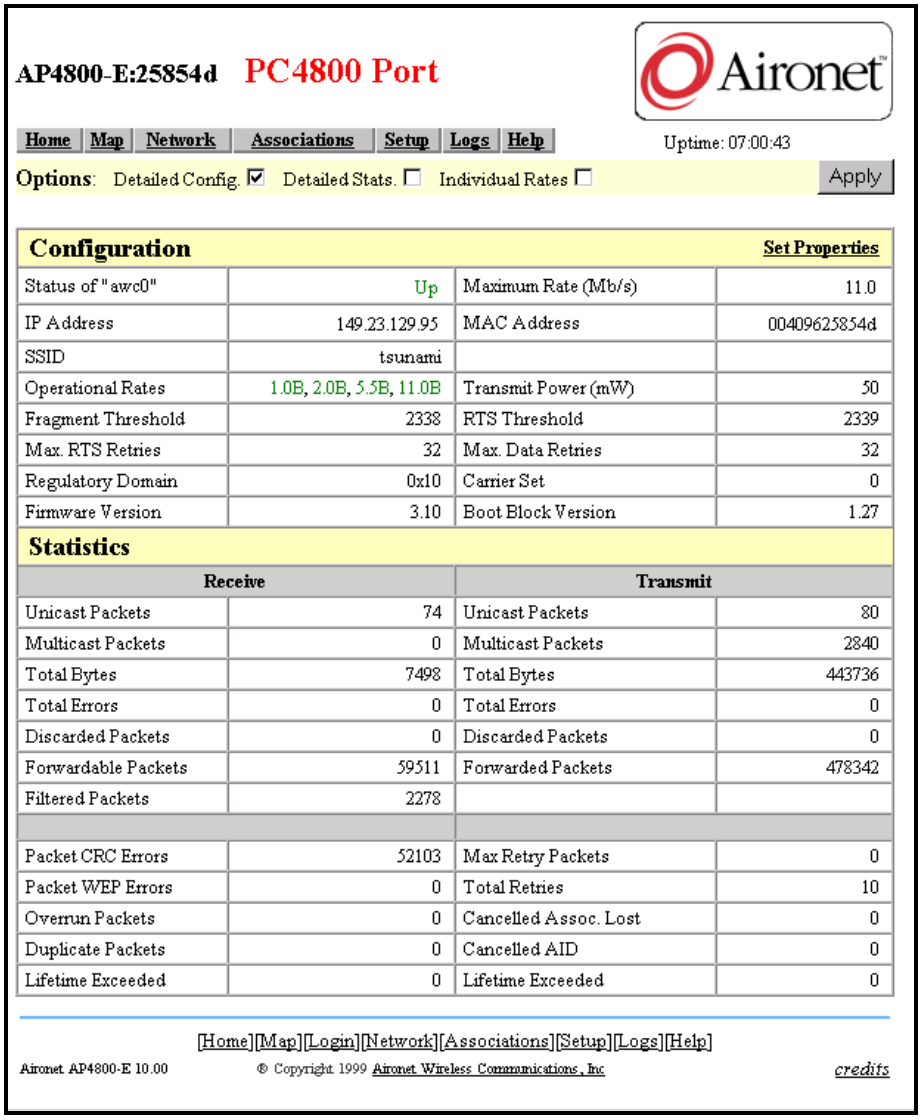
This page presents key information on the Access Point's PC4800 radio port. The PC4800 port is the radio port that communicates with the wireless network.

Options

The sample page shown above is the basic PC4800 Port page. The Options section provides three check boxes that deliver more details on the port configuration and operating statistics. The basic page without any of the options will ordinarily provide all information needed to monitor and administer the port in normal operation. The options would most likely be needed in comprehensive site surveys or advanced system troubleshooting.

Detailed Config.

Added configuration details include request to send (RTS) and data retry settings; Firmware and Boot Block version levels; and Regulatory Domain code.



AP4800-E:25854d PC4800 Port

Aironet

Home | Map | Network | Associations | Setup | Logs | Help

Uptime: 07:00:43

Options: Detailed Config. ☑ Detailed Stats. ☐ Individual Rates ☐ Apply

Configuration			Set Properties
Status of "awc0"	Up	Maximum Rate (Mb/s)	11.0
IP Address	149.23.129.95	MAC Address	00409625854d
SSID	tsunami		
Operational Rates	1.0B, 2.0B, 5.5B, 11.0B	Transmit Power (mW)	50
Fragment Threshold	2338	RTS Threshold	2339
Max. RTS Retries	32	Max. Data Retries	32
Regulatory Domain	0x10	Carrier Set	0
Firmware Version	3.10	Boot Block Version	1.27

Statistics

Receive		Transmit	
Unicast Packets	74	Unicast Packets	80
Multicast Packets	0	Multicast Packets	2840
Total Bytes	7498	Total Bytes	443736
Total Errors	0	Total Errors	0
Discarded Packets	0	Discarded Packets	0
Forwardable Packets	59511	Forwarded Packets	478342
Filtered Packets	2278		
Packet CRC Errors	52103	Max Retry Packets	0
Packet WEP Errors	0	Total Retries	10
Overrun Packets	0	Cancelled Assoc. Lost	0
Duplicate Packets	0	Cancelled AID	0
Lifetime Exceeded	0	Lifetime Exceeded	0

[Home][Map][Login][Network][Associations][Setup][Logs][Help]

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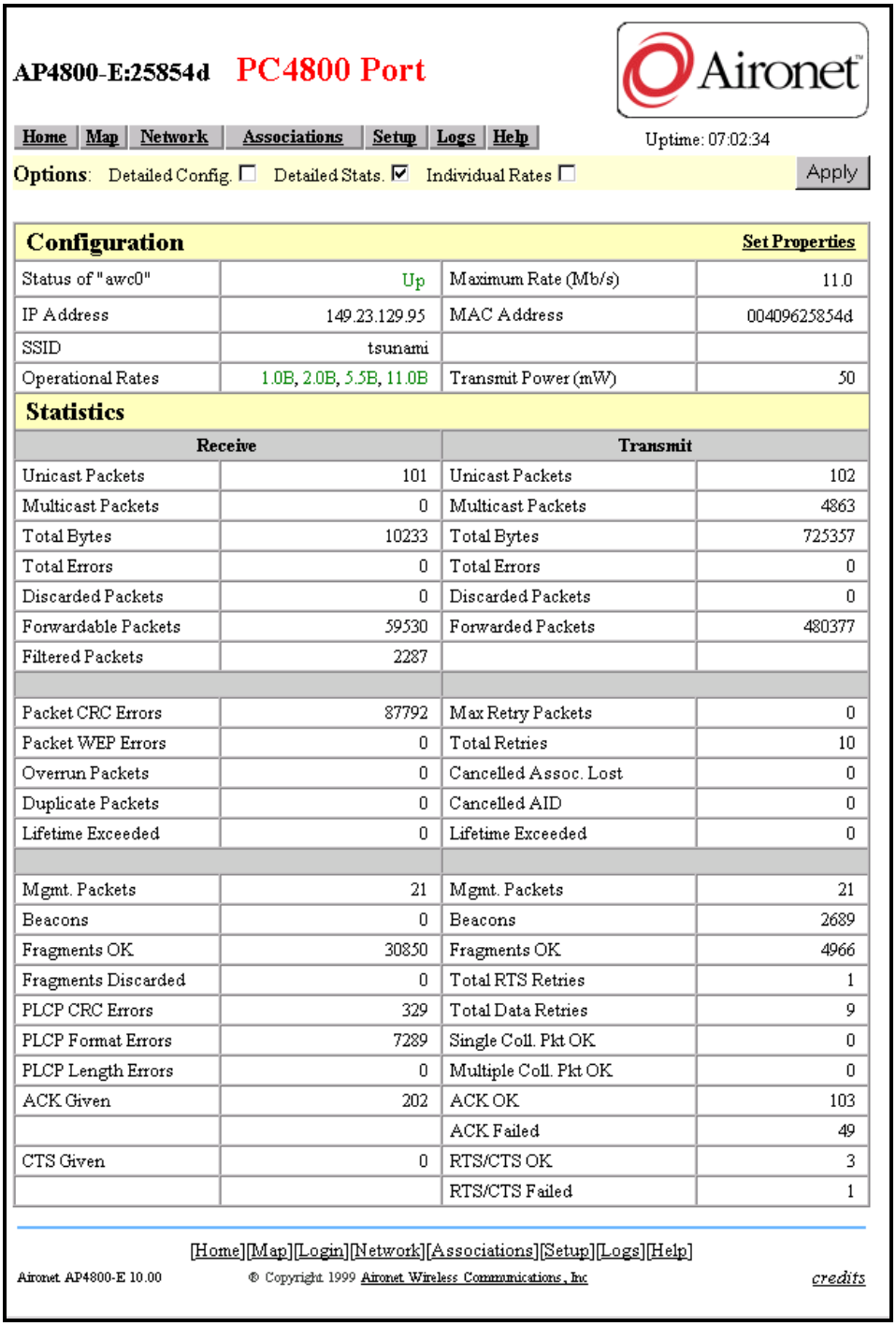
PC4800 Port Page with Detailed Configuration Option selected

Detailed Stats.

The Detailed Statistics checkbox provides 20 more statistical fields covering packet fragments, collisions, and other errors.



AP4800-E:25854d **PC4800 Port**

Home | Map | Network | Associations | Setup | Logs | Help

Uptime: 07:02:34

Options: Detailed Config. ☐ Detailed Stats. ☑ Individual Rates ☐ Apply

Configuration			**Set Properties**
Status of "awc0"	Up	Maximum Rate (Mb/s)	11.0
IP Address	149.23.129.95	MAC Address	00409625854d
SSID	tsunami		
Operational Rates	1.0B, 2.0B, 5.5B, 11.0B	Transmit Power (mW)	50

Statistics			
Receive		**Transmit**	
Unicast Packets	101	Unicast Packets	102
Multicast Packets	0	Multicast Packets	4863
Total Bytes	10233	Total Bytes	725357
Total Errors	0	Total Errors	0
Discarded Packets	0	Discarded Packets	0
Forwardable Packets	59530	Forwarded Packets	480377
Filtered Packets	2287		
Packet CRC Errors	87792	Max Retry Packets	0
Packet WEP Errors	0	Total Retries	10
Overrun Packets	0	Cancelled Assoc. Lost	0
Duplicate Packets	0	Cancelled AID	0
Lifetime Exceeded	0	Lifetime Exceeded	0
Mgmt. Packets	21	Mgmt. Packets	21
Beacons	0	Beacons	2689
Fragments OK	30850	Fragments OK	4966
Fragments Discarded	0	Total RTS Retries	1
PLCP CRC Errors	329	Total Data Retries	9
PLCP Format Errors	7289	Single Coll. Pkt OK	0
PLCP Length Errors	0	Multiple Coll. Pkt OK	0
ACK Given	202	ACK OK	103
		ACK Failed	49
CTS Given	0	RTS/CTS OK	3
		RTS/CTS Failed	1

[Home][Map][Login][Network][Associations][Setup][Logs][Help]

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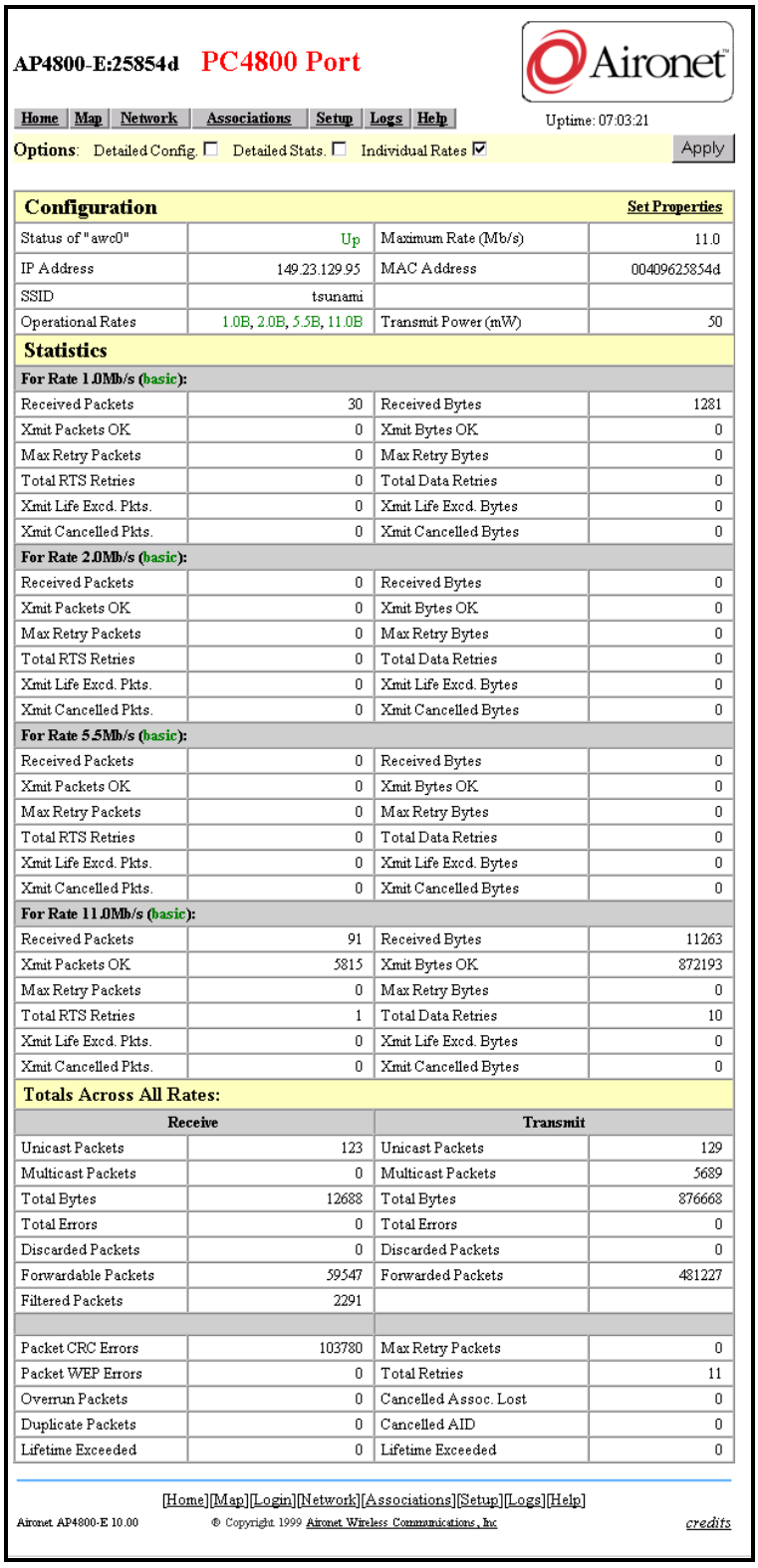
PC4800 Port Page with Detailed Stats Option selected

Individual Rates

This checkbox reports the data transmission statistics at each of the individual rates.



AP4800-E:25854d PC4800 Port

Home | Map | Network | Associations | Setup | Logs | Help — Uptime: 07:03:21

Options: Detailed Config. ☐ Detailed Stats. ☐ Individual Rates ☑ Apply

Configuration			Set Properties
Status of "awc0"	Up	Maximum Rate (Mb/s)	11.0
IP Address	149.23.129.95	MAC Address	00409625854d
SSID	tsunami		
Operational Rates	1.0B, 2.0B, 5.5B, 11.0B	Transmit Power (mW)	50
Statistics			
For Rate 1.0Mb/s (basic):			
Received Packets	30	Received Bytes	1281
Xmit Packets OK	0	Xmit Bytes OK	0
Max Retry Packets	0	Max Retry Bytes	0
Total RTS Retries	0	Total Data Retries	0
Xmit Life Excd. Pkts.	0	Xmit Life Excd. Bytes	0
Xmit Cancelled Pkts.	0	Xmit Cancelled Bytes	0
For Rate 2.0Mb/s (basic):			
Received Packets	0	Received Bytes	0
Xmit Packets OK	0	Xmit Bytes OK	0
Max Retry Packets	0	Max Retry Bytes	0
Total RTS Retries	0	Total Data Retries	0
Xmit Life Excd. Pkts.	0	Xmit Life Excd. Bytes	0
Xmit Cancelled Pkts.	0	Xmit Cancelled Bytes	0
For Rate 5.5Mb/s (basic):			
Received Packets	0	Received Bytes	0
Xmit Packets OK	0	Xmit Bytes OK	0
Max Retry Packets	0	Max Retry Bytes	0
Total RTS Retries	0	Total Data Retries	0
Xmit Life Excd. Pkts.	0	Xmit Life Excd. Bytes	0
Xmit Cancelled Pkts.	0	Xmit Cancelled Bytes	0
For Rate 11.0Mb/s (basic):			
Received Packets	91	Received Bytes	11263
Xmit Packets OK	5815	Xmit Bytes OK	872193
Max Retry Packets	0	Max Retry Bytes	0
Total RTS Retries	1	Total Data Retries	10
Xmit Life Excd. Pkts.	0	Xmit Life Excd. Bytes	0
Xmit Cancelled Pkts.	0	Xmit Cancelled Bytes	0
Totals Across All Rates:			
Receive		**Transmit**	
Unicast Packets	123	Unicast Packets	129
Multicast Packets	0	Multicast Packets	5689
Total Bytes	12688	Total Bytes	876668
Total Errors	0	Total Errors	0
Discarded Packets	0	Discarded Packets	0
Forwardable Packets	59547	Forwarded Packets	481227
Filtered Packets	2291		
Packet CRC Errors	103780	Max Retry Packets	0
Packet WEP Errors	0	Total Retries	11
Overrun Packets	0	Cancelled Assoc. Lost	0
Duplicate Packets	0	Cancelled AID	0
Lifetime Exceeded	0	Lifetime Exceeded	0

[Home][Map][Login][Network][Associations][Setup][Logs][Help]

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PC4800 Port Page with Individual Rates Option selected

Configuration

The top section of the PC4800 Port page reports the operational status, data rate, power and the identifying addresses of the PC4800 port. See the Express Setup page for information on device and port identification [Summary Status > Setup > Express Setup].

Set Properties

This is a link to the PC4800 Hardware page.

Status of "awc0"

The term "awc0" (Aironet Wireless Communications) is part of Aironet's naming convention for this radio. This field displays one of three possible operating states.

Up

The port is operating properly.

Down

The port is not operating.

Error

The port is in an error condition.

Maximum Rate (Mb/s)

Maximum rate of data transmission in megabits per second. "Basic" data rates, as defined by IEEE-802.11 are followed by "B."

IP Addr.

Internet protocol address of the port. Use the Express Setup page to assign or change IP address [Summary Status > Setup > Express Setup]

MAC Addr.

The Media Access Control (MAC) address is a unique identifier assigned by the manufacturer.

SSID

The Service Set Identifier (SSID) – also termed the Radio SSID – is an identifier that stations must use to be able to communicate with an AP. Enter or change the SSID for the port in the Express Setup Page [Summary Status > Setup > Express Setup].

Transmit Power (mW)

The power level of radio transmission. Maximum setting is government-regulated and must conform to established standards for the country of operation. Setting can be reduced to conserve power or reduce interference. Enter or change the power setting in PC4800 Hardware using the "Set Properties" link above.

Statistics: Receive

This section reports the data traffic received through the AP's PC4800 port.

Unicast Packets

The number of packets received in "point-to-point" communication.

Statistics: Receive (continued)

Multicast Packets
The number of packets received that were sent as a transmission to a set of nodes.

Total Bytes
Total number of bytes received.

Total Errors
Packets determined to be in error.

Discarded Packets
Packets discarded due to errors.

Forwardable Packets
Packets received by the port that were acceptable or passable through the filters.

Filtered Packets
Packets that were stopped or screened by the filters set up on the port.

Packet CRC Errors
Cyclic redundancy check (CRC) errors that were detected in a received packet.

Packet WEP Errors
Encryption errors received through this port.

Overrun Packets
Packets that were discarded because the AP had a temporary overload of packets to handle.

Duplicate Packets
Packets that were received twice because an acknowledgement got lost, then the sender retransmitted the packet.

Lifetime Exceeded
Fragmented packet dropped, because it took too long to get the next fragment.

Statistics: Transmit
This section reports the data traffic transmitted from the AP's PC4800 port.

Unicast Packets
The number of packets transmitted in "point-to-point" communication.

Multicast Packets
The number of packets transmitted that were sent as a transmission to a set of nodes.

Total Bytes
Total number of bytes transmitted from the port.

Total Errors
The number of packets determined to be in error.

Statistics: Transmit (continued)

Discarded Packets
The number of packets discarded by the AP due to errors.

Forwarded Packets
The number of packets transmitted by the port that were acceptable or passable through the filters.

Max Retry Packets
The number of times requests to send (RTS) reached the maximum retry number. Set the RTS value on the PC4800 Hardware page using the "Set Properties" link above.

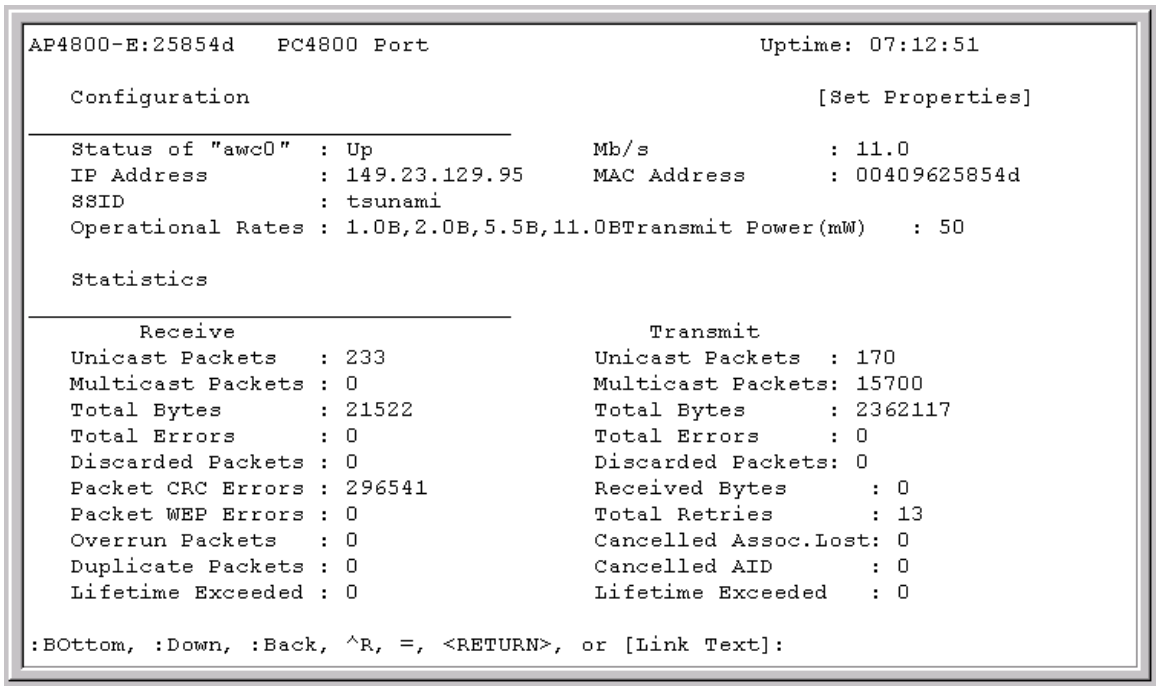
Total Retries
Tally of the number of retries occurring through this port.

Cancelled Assoc. Lost
Packets dropped due to a station's loss of association with the AP, or a repeater's loss of association with its parent.

Cancelled AID
Packets dropped by a repeater because it roamed to a different parent during a retransmission attempt.

Lifetime Exceeded
Fragmented packet dropped, because it took too long to deliver a fragment.

Console Screen


AP4800-E:25854d PC4800 Port Uptime: 07:12:51
Configuration [Set Properties]
Status of "awc0" : Up Mb/s : 11.0
IP Address : 149.23.129.95 MAC Address : 00409625854d
SSID : tsunami
Operational Rates : 1.0B,2.0B,5.5B,11.0BTransmit Power(mW) : 50
Statistics
Receive Transmit
Unicast Packets : 233 Unicast Packets : 170
Multicast Packets : 0 Multicast Packets: 15700
Total Bytes : 21522 Total Bytes : 2362117
Total Errors : 0 Total Errors : 0
Discarded Packets : 0 Discarded Packets: 0
Packet CRC Errors : 296541 Received Bytes : 0
Packet WEP Errors : 0 Total Retries : 13
Overrun Packets : 0 Cancelled Assoc.Lost: 0
Duplicate Packets : 0 Cancelled AID : 0
Lifetime Exceeded : 0 Lifetime Exceeded : 0
:BOttom, :Down, :Back, ^R, =, <RETURN>, or [Link Text]:

PC4800 Port - Console Screen Version

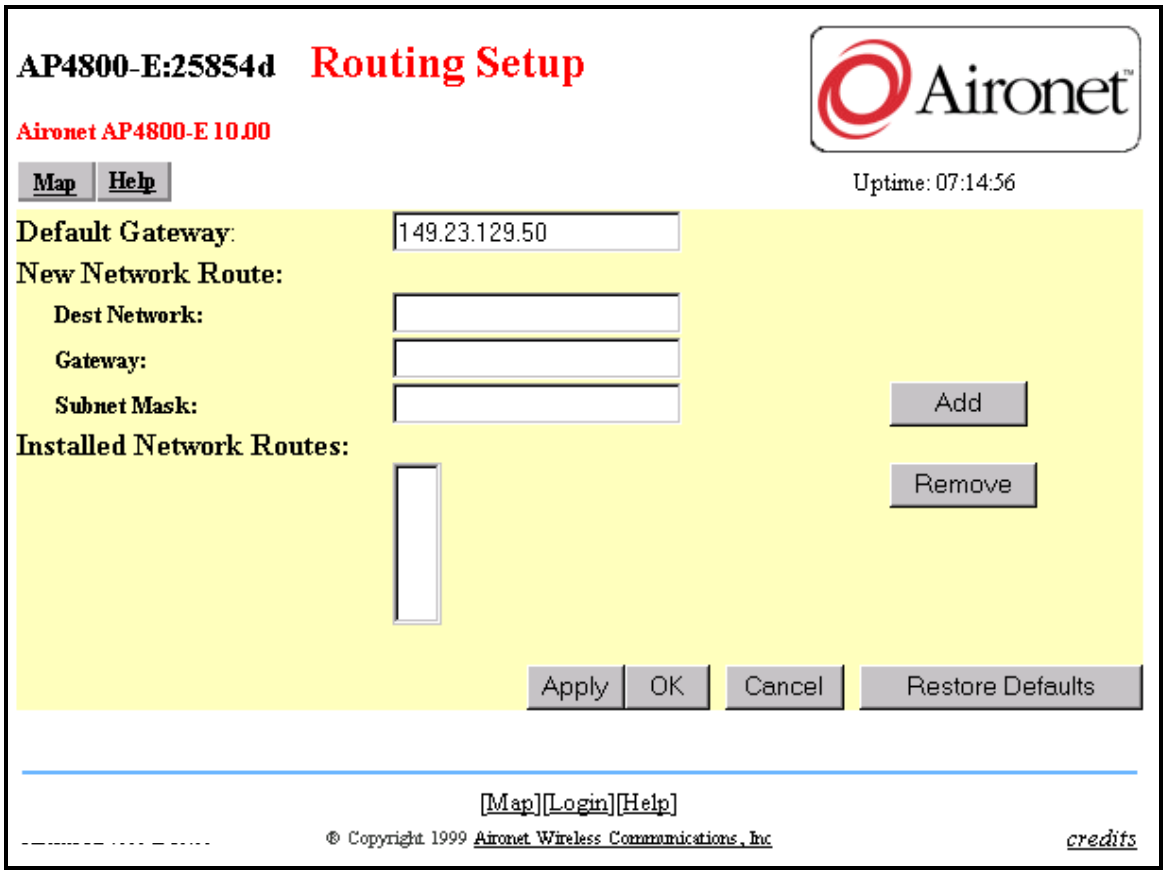
Routing Setup

Navigation

Summary Status > Setup > Services: Routing > Routing Setup

Security

Changes to this page require an Administrator with Identity capabilities.



Routing Setup Page

Overview

Use this page to configure this AP to communicate with the IP network routing system.

Settings

Default Gateway

Enter the IP address of the default network gateway here. The entry 255.255.255.255. indicates no gateway.

Settings (continued)

Add/Remove Buttons
This pair of buttons work with the New and Installed Network Route settings. Use "Add" to place the New Network Route into the Installed field. Use "Remove" to delete a highlighted route from the Installed field. After using the Add/Remove buttons to enter routing changes, use the Action Buttons below to complete the setup.

New Network Route
For each new network route, you must make three entries:

Dest Network
Enter the IP address of the destination network.

Gateway
Enter the IP address of the gateway used to reach the destination network.

Subnet Mask
Enter the subnet mask that is associated with the destination network.

Installed Network Routes
This field lists all installed routes. If you have just modified the list, the changes will not take effect until after you have used the desired Action Button to apply or cancel the change.

Action Buttons
This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

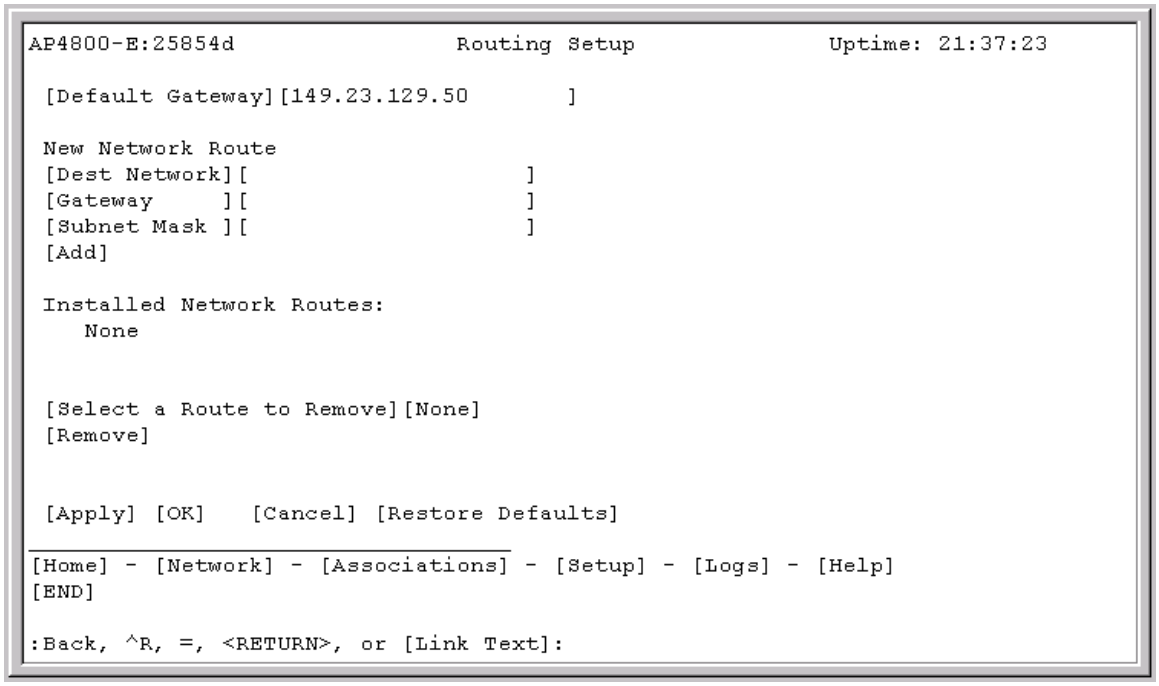
Apply
After entering new settings, press APPLY to activate. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the main Setup page.

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen



Routing Setup** - **Console Screen Version

Security Setup

Navigation

Summary Status > Setup > Services/Security > Security Setup

Security

There are no security restrictions for this page, but administrator and write capabilities are required to view and make changes to the User Manager and User Information links.

Security Setup Page

Overview

This page allows you to set up and manage the AP's security features. To enable the security features, you must go to the User Information page and create a user with Administrator, Identity, Firmware, and Write capabilities.

Settings

Login

Displays the Login window, where the user can log in if he or she hasn't done so already. This Login link is the same as the Login link that appears at the bottom of every page.

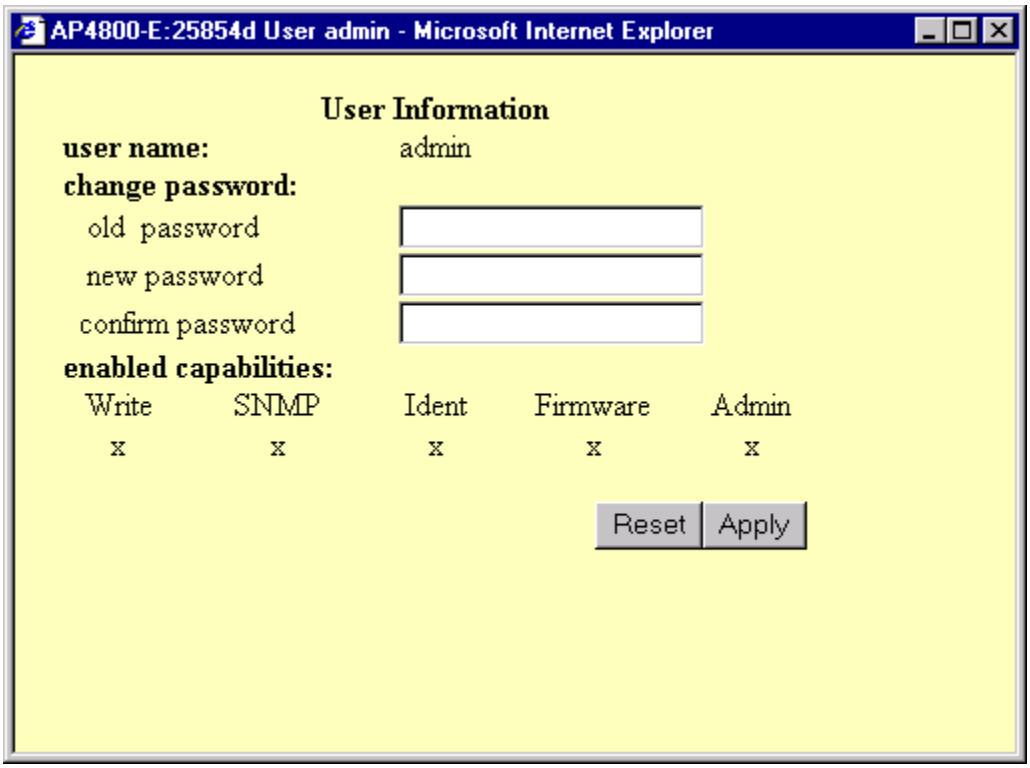
User Manager

Use this link to enable or disable the security features.

Settings (continued)

Change Current User Password

Displays the Change User Password window. The Change User Password window also displays the user's assigned capabilities.



To change your password, type your existing password in the old password field. Type your new password in the new password field, and re-type it in the confirm password field. Click Apply.

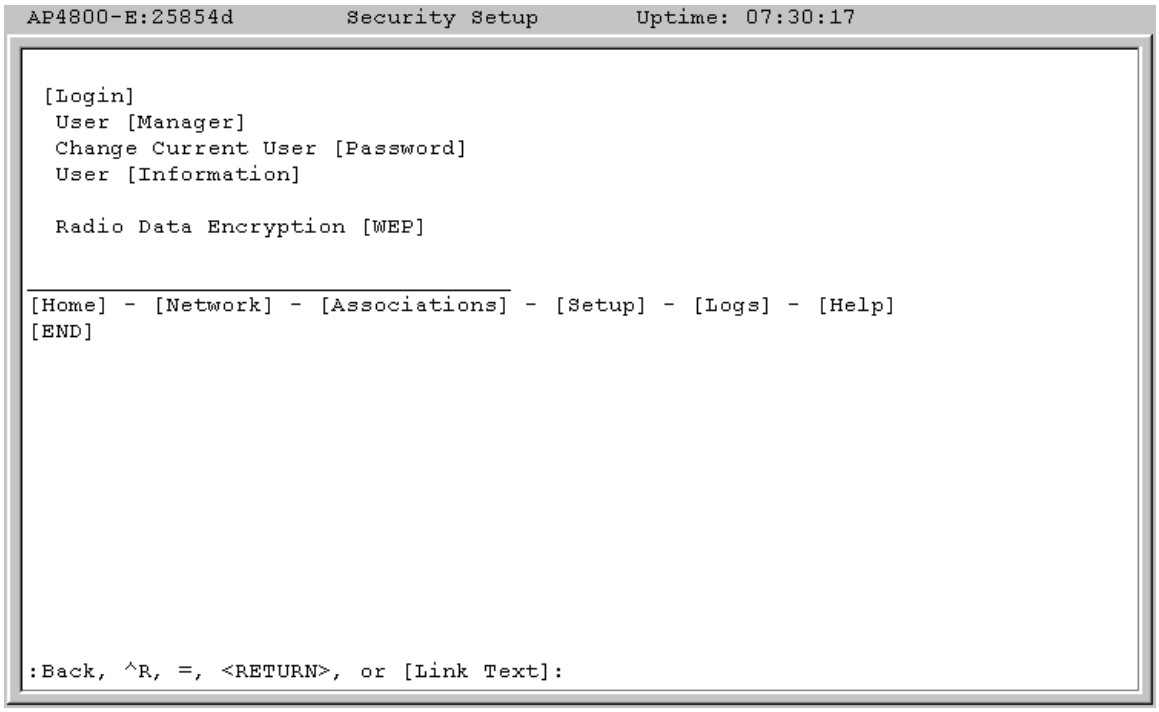
User Information

Use this link to add users to the system, remove users from the system, and assign user capabilities. To enable system user-level security, you use this link to add a user with administrator, Identity, Firmware, and Write capabilities, and then go to the User Manager screen to enable the security features.

Radio Data Encryption (WEP)

This link takes you to the Radio Data Encryption page, where you can set up to four data encryption keys and enable WEP.

Console Screen


AP4800-E:25854d Security Setup Uptime: 07:30:17
[Login]
User [Manager]
Change Current User [Password]
User [Information]
Radio Data Encryption [WEP]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Security Setup - Console Screen Version

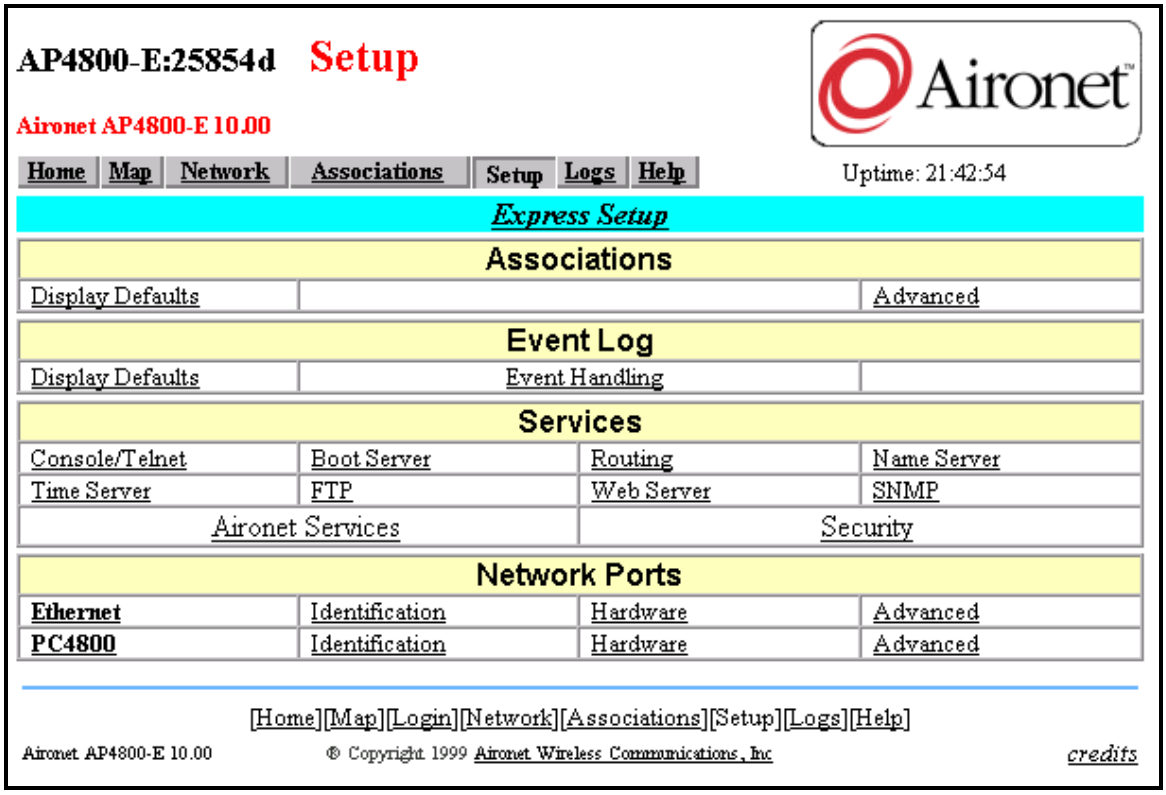
Setup

Navigation

Summary Status > Setup > Setup

Security

This page provides links to the AP's information and identification pages. Appropriate security capabilities are required on the linked destination pages.



Setup Page

Overview

The main Setup page consists solely of links for system setup, configuration and performance information.

Express Setup

This link goes to the Express Setup page that contains fields and menus for all basic settings. The Express Setup page is the appropriate page for making changes in most typical network applications.

Associations

This section links to display and filter pages for associated stations.

Display Defaults

This is a link to the Association Table Filters page.

Advanced

The Association Table Advanced page controls the number of devices the AP displays in the Association Table, and the amount of time the AP continues to track each device type when a device is inactive.

Event Log

This section links to pages for setting up event parameters and monitoring system events.

Display Defaults

This page allows you to determine how time should be displayed on the event log. In addition, you can determine what severity level of events appear in event displays.

Event Handling

This page allows you to determine how the AP handles the different fatal, alert, warning, and information events, should they occur.

Services

This section links to a range of pages for setting up system features and support services.

Console/Telnet

Contains the settings necessary to access both the console port of the AP and to access the AP through Telnet. All software functions that show on browser pages can also be accessed and operated on the console screens and Telnet. If browser control should be unavailable for any reason, console access can provide an alternative means of administration.

Boot Server

Configures the AP to the Ethernet network's BOOTP or DHCP servers for automatic assignment of IP addresses.

Name Server

Configures this AP to work with your network's Domain Name Server(s). Domain Name Systems provide direct correspondence between IP addresses and domain names.

Web Server

Specifies the location of the software help files and also supports web server setup for users who have custom-tailored web systems for control of access points.

Time Server

Synchronizes this AP with the network's time server, or allows you to manually set the time.

FTP

Configures File Transfer Protocol including the selection between FTP and TFTP plus entry of name, password and default file server.

Services (continued)

SNMP
Configures the AP to work with the network administrator's Simplified Network Management Protocol station.

Aironet Services
Links to administer system configuration and for updating firmware.

Routing
Configures this AP to communicate with the IP network routing system.

Security
Sets up network security including names, passwords and capability levels.

Network Ports
The bottom section of the page provides links to configure and adjust network ports. The Ethernet and PC4800 rows each identify one network port on the AP. These are generally the Ethernet (wired) port, and the PC4800 radio port. For each port, three setup pages are available: Identification, Hardware, and Advanced.

Ethernet
Specifies the type of connector used by the port. The Identification, Hardware, and Advanced links in the Ethernet row allow you to adjust Ethernet settings.

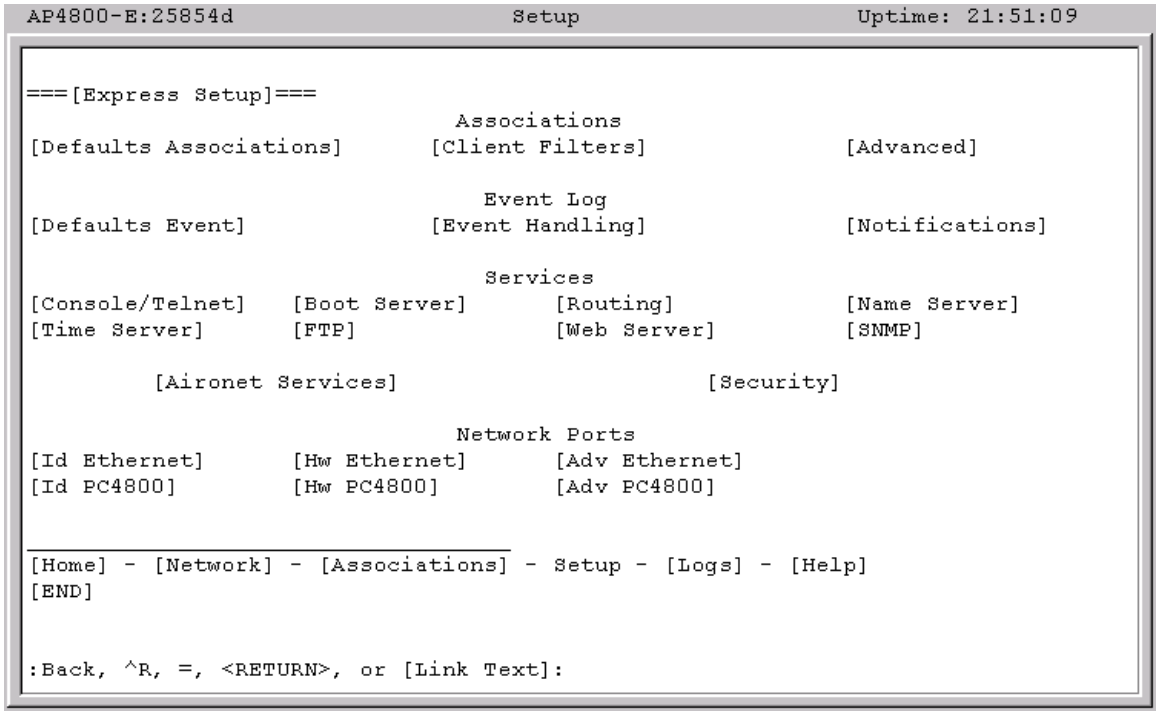
PC4800
Sets a range of values, specifications, and data rates for the radio port of the AP. The Identification, Hardware, and Advanced links in the PC4800 row allow you to adjust wireless LAN adapter client settings.

Identification
Settings for basic port location and identity information, such as the IP address of the port.

Hardware
For Ethernet, the Hardware page allows an administrator to select the Ethernet speed. For the radio port, the Hardware page provides a wide variety of operating settings for network tuning.

Advanced
Changes the operational status of the port. As an aid in troubleshooting network problems, setting options on this page can be helpful in making temporary changes in device status.

Console Screen


AP4800-E:25854d Setup Uptime: 21:51:09
===[Express Setup]===
Associations
[Defaults Associations] [Client Filters] [Advanced]
Event Log
[Defaults Event] [Event Handling] [Notifications]
Services
[Console/Telnet] [Boot Server] [Routing] [Name Server]
[Time Server] [FTP] [Web Server] [SNMP]
[Aironet Services] [Security]
Network Ports
[Id Ethernet] [Hw Ethernet] [Adv Ethernet]
[Id PC4800] [Hw PC4800] [Adv PC4800]
[Home] - [Network] - [Associations] - Setup - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Setup - Console Screen Version

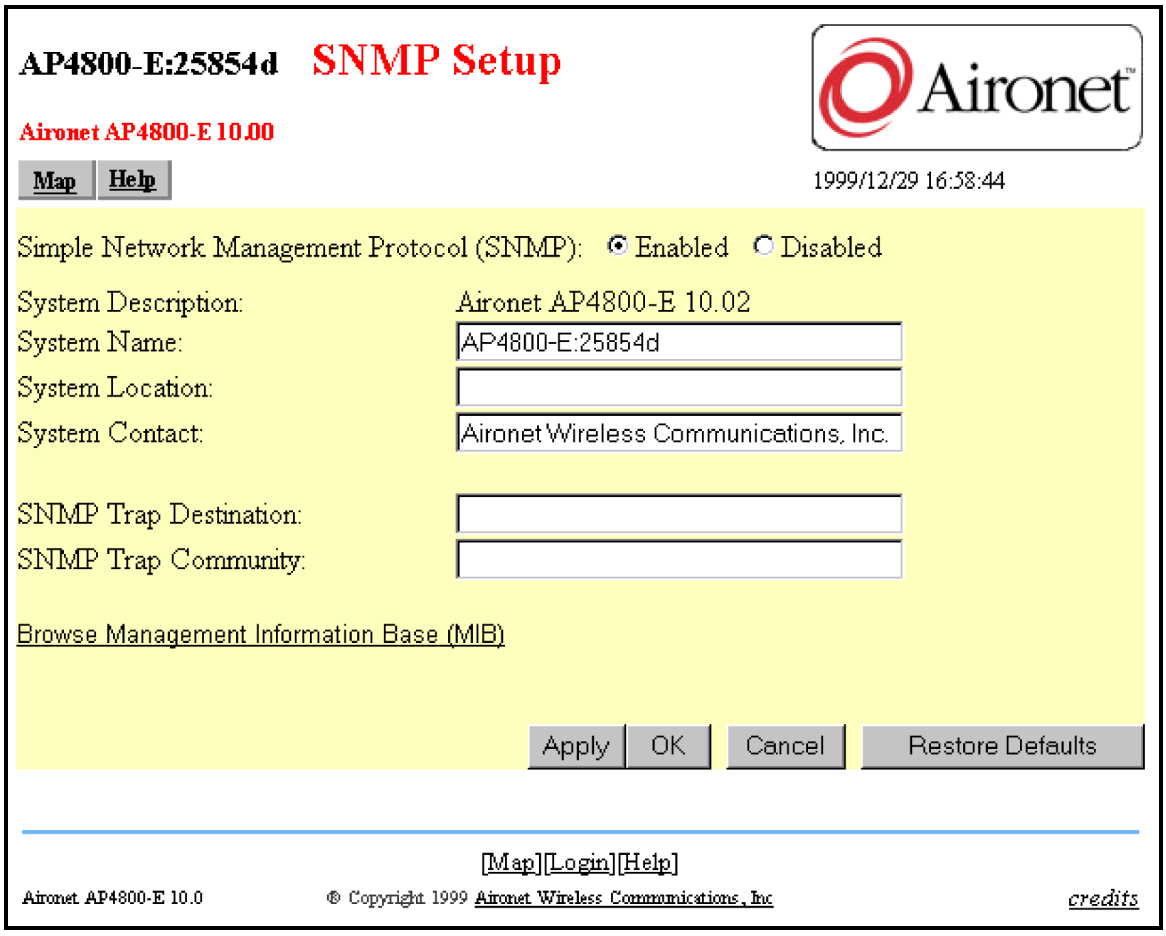
SNMP Setup

Navigation

Summary Status > Setup > Services/SNMP > SNMP Setup

Security

Changes to this page require an Administrator with Write capabilities.



SNMP Setup Page

Overview

This page configures this AP to work with your network administrator's Simple Network Management Protocol station. In addition to enabling SNMP, you must create a user with the SNMP capability to serve as an SNMP community.

Settings

Simple Network Management Protocol (SNMP)

This setting must be Enabled to use SNMP.

Settings (continued)

System Description
The system's device type as listed at the bottom of the page.

System Name
The name of this AP. This will be reported to your SNMP's management station as the name of the device when you are using SNMP to communicate.

System Location
Enter the Location of this AP, such as a building name or other identifier.

System Contact
Enter the name of the System Administrator responsible for this AP.

SNMP Trap Destination
The IP address of the SNMP management station. If using DNS, enter a host name that would resolve into an IP address.

SNMP Trap Community
The SNMP community name required by the Trap Destination before it will record traps sent by the AP.

Browse Management Information Base (MIB)
This link allows direct browsing of named objects in the AP's MIB.

Action Buttons
This set of four action buttons control identification entries. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

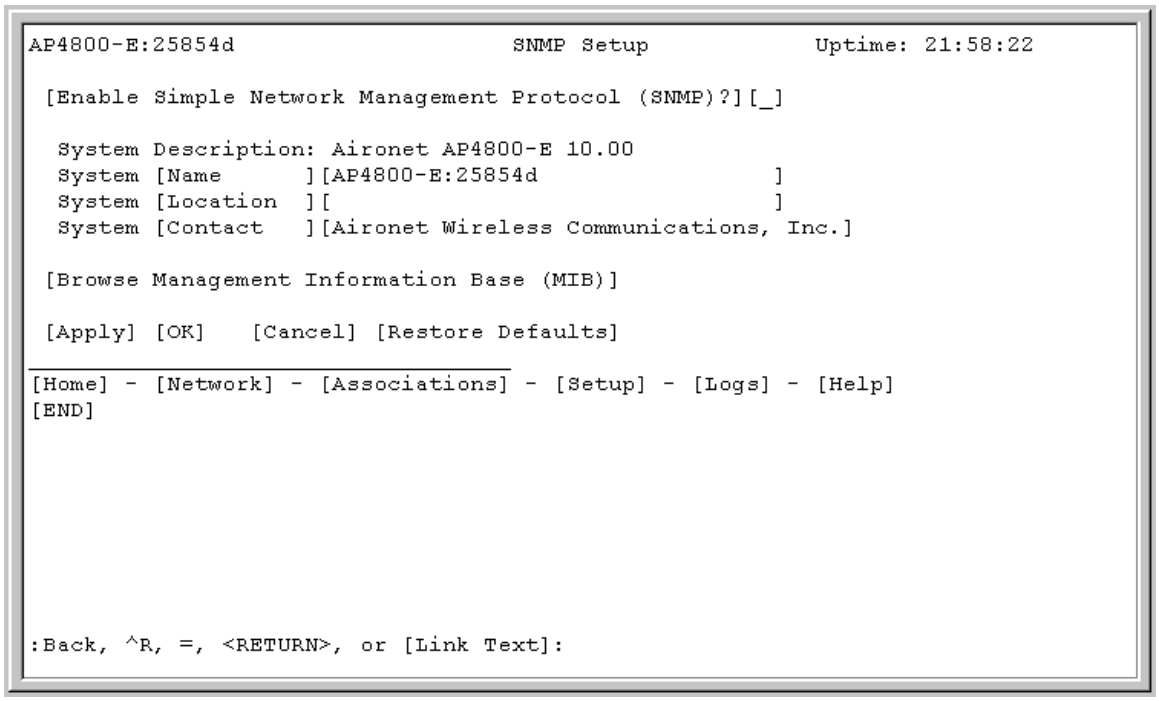
Apply
After entering new values or settings, press APPLY to activate the new entries. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the previous page.

Cancel
This button cancels all entries or port settings and returns the settings to the previous stored entries.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d SNMP Setup Uptime: 21:58:22
[Enable Simple Network Management Protocol (SNMP)?][_]
System Description: Aironet AP4800-E 10.00
System [Name][AP4800-E:25854d]
System [Location][ ]
System [Contact][Aironet Wireless Communications, Inc.]
[Browse Management Information Base (MIB)]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

SNMP Setup - Console Screen Version

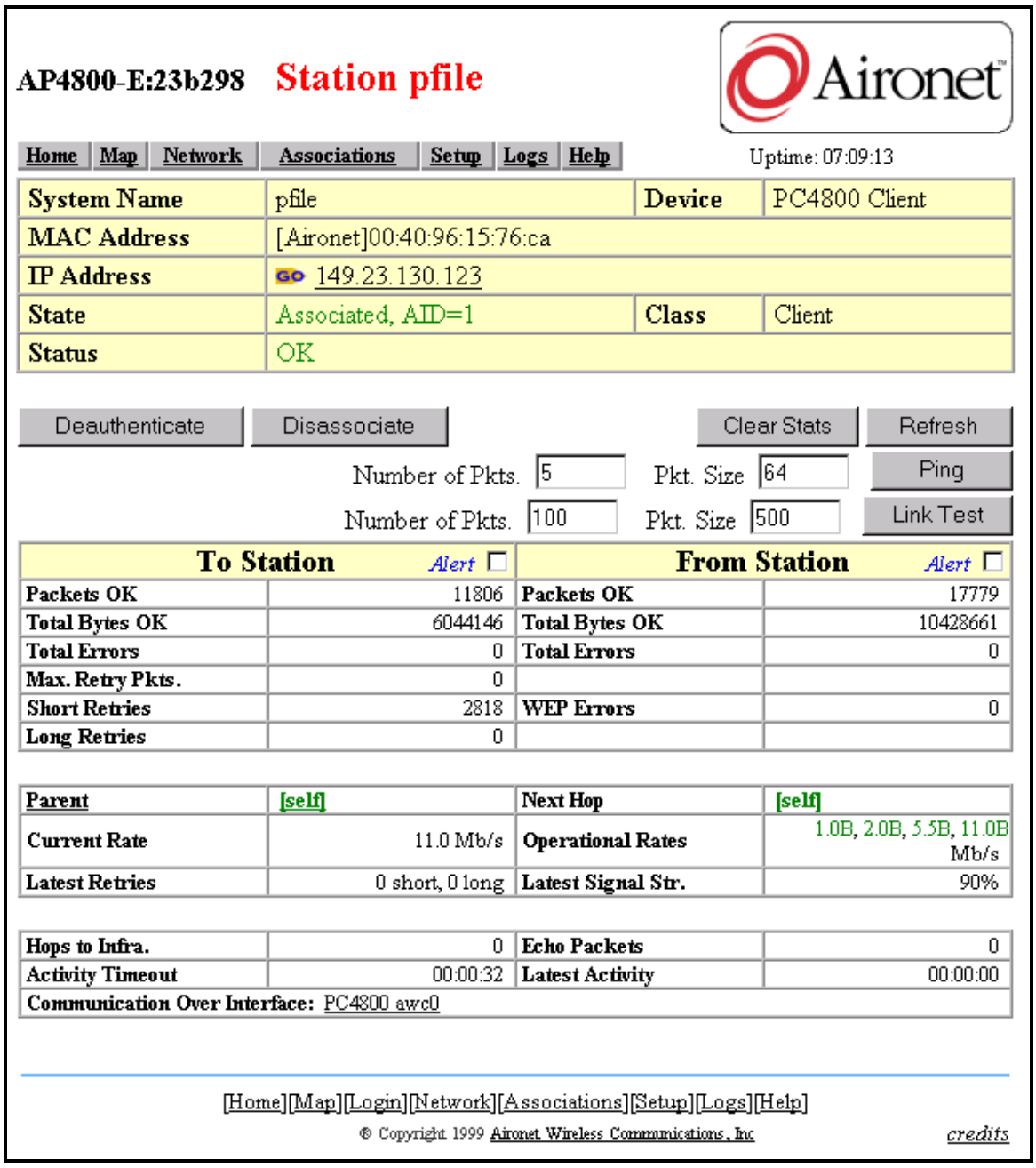
Station

Navigation

Summary Status > Current Associations > Association Table > Station's MAC Address > Station

Security

This is a status information page that can be read by all users. Only users that log on with Administrator clearance will see and can operate all of the Action Buttons.



AP4800-E:23b298 **Station pfile**

Aironet

Home | Map | Network | Associations | Setup | Logs | Help

Uptime: 07:09:13

System Name	pfile	Device	PC4800 Client
MAC Address	[Aironet]00:40:96:15:76:ca		
IP Address	GO 149.23.130.123		
State	Associated, AID=1	Class	Client
Status	OK		

Deauthenticate | Disassociate | Clear Stats | Refresh

Number of Pkts. 5 Pkt. Size 64 Ping

Number of Pkts. 100 Pkt. Size 500 Link Test

To Station		Alert ☐	From Station		Alert ☐
Packets OK	11806		Packets OK	17779	
Total Bytes OK	6044146		Total Bytes OK	10428661	
Total Errors	0		Total Errors	0	
Max. Retry Pkts.	0				
Short Retries	2818		WEP Errors	0	
Long Retries	0				

Parent	[self]	Next Hop	[self]
Current Rate	11.0 Mb/s	Operational Rates	1.0B, 2.0B, 5.5B, 11.0B Mb/s
Latest Retries	0 short, 0 long	Latest Signal Str.	90%

Hops to Infra.	0	Echo Packets	0
Activity Timeout	00:00:32	Latest Activity	00:00:00
Communication Over Interface: PC4800 awc0			

[Home][Map][Login][Network][Associations][Setup][Logs][Help]

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credits

Station Page

Overview

This page is a comprehensive review of information and traffic for an individual station. Depending on the type of station, some of the reporting fields and settings options will vary and your station page might differ from the sample above. The terms section below includes all terms and fields that appear on the different forms of the Station page.

Station Identification

System Name
The Aironet name assigned to the station.

Device
The device type and model number of the station.

MAC Address
The Media Access Control address is a unique identifier assigned by the manufacturer.

IP Address
Internet protocol address of the device. When you click the IP address link, the browser attempts to browse to any web server operating on the station.

State
Displays the operational state of the wireless station:

[self]
This station is the AP itself.

Assoc
The station is associated with an AP. Client stations associated with this AP will also show an AID (Association Identifier) value that is an index into a table of stations associated with this AP. Maximum AID count is 2007.

Unauth
The station is unauthenticated with any AP.

Auth
The station is authenticated with an AP.

Local Auth
The station has authenticated at least once with this AP.

Class
This field displays the type of station.

AP
An Access Point.

Client, PS Client
A client or power-save client station.

Bridge, Bridge R
A Bridge or a Root Bridge.

Class (continued)

Rptr
A repeater.

Mcast
A multicast address.

Infra
An infrastructure node, typically a workstation with a wired connection to the Ethernet network.

Status
OK indicates proper operating status. Other possible status options include: IP Forwarding Agent, BootP/DHCP Client, ARP Proxy Server, IP Virtual Router, and WEP if WEP is enabled. Status also tells you if short radio preambles are in use with this station.

Action Buttons

Deauthenticate
Forces a client to re-authenticate with the AP. This button is only available to users with administrator capability.

Disassociate
Allows a client to break its current association, re-evaluate the currently associated AP and determine which of the surrounding APs has the best signal quality to associate with. This button is only available to users with administrator capability.

Clear stats
Clears all packet, octet and error counts and resets the counters to zero 0.

Refresh
Updates the counts to their newly accumulated values, and saves the "Alert" selections.

Testing

Ping

Tests communication with the AP. Enter the number and size of packets to be sent. Click ping to start the test and display the test results.

```
PING 149.23.130.123: 56 data bytes
64 bytes from 149.23.130.123: icmp_seq=0. time=15 msec
64 bytes from 149.23.130.123: icmp_seq=1. time=15 msec
64 bytes from 149.23.130.123: icmp_seq=2. time=15 msec
64 bytes from 149.23.130.123: icmp_seq=3. time=15 msec
64 bytes from 149.23.130.123: icmp_seq=4. time=15 msec
----149.23.130.123 PING Statistics----
5 packets transmitted, 5 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 15/15/15
```

Test Again

Ping Log File Window

Link test

Tests the link between the AP and the station. Enter the number and size of packets to be sent. Pressing Link Test starts the test and displays test results.

Pkts. Attempted	100	**Pkts. Requested**	100
Pkts. Successful	100	**Payload Size**	500
Avg. Delay	6.6 msec	**[Min, Max] Delay**	[4.5, 18.4] msec
Transmit Rates	100 at 11.0B		

To the Station		**From the Station**	
Avg. Signal Strength	100%	**Avg. Signal Strength**	91%
[Min, Max] Strength	[100%, 100%]	**[Min, Max] Strength**	[90%, 90%]
Avg. Signal Quality	65%	**Avg. Signal Quality**	60%
[Min, Max] Quality	[23%, 75%]	**[Min, Max] Quality**	[42%, 77%]
Pkts. No Retries	100	**Pkts. No Retries**	91
Pkts. 1 Retry	0	**Pkts. 1 Retry**	7
Pkts. Mult. Retries	0	**Pkts. Mult. Retries**	2
Pkts. Max. Retries	0		
Pkts. Lost	0	**Pkts. Lost**	0
Duplicate Pkts.	0	**Duplicate Pkts.**	0
RTS Retries	1	**RTS Retries**	0
Data Retries	0	**Data Retries**	11

Test Again

Link Test Results Window

To Station

Alert
Click this box if you want detailed packet trace information captured for the Association Table page. This option is only available to users with administrator capability.

Packets OK
Reports the number of good packets coming to the station.

Total Bytes OK
Reports the number of good bytes coming to the station.

Total Errors
Reports the total number of packet errors coming to the station.

Max. Retry Pkts.
Reports the number of times requests to send (RTSs) have reached the maximum retry number. The maximum retry value is set on Hardware page.

RTS (Short) Retries
Reports the number of times the RTS packet had to be retried.

Data (Long) Retries
Reports the number of times the data packet had to be retried.

From Station

Alert
Click this box if you want detailed packet trace information captured for the Association Table page. This option is only available to users with administrator capability.

Packets OK
Reports the number of good packets sent from the station.

Total Bytes OK
Reports the number of good bytes sent from the station.

Total Errors
Reports the total number of packet errors sent from the station.

WEP errors
Reports the number of encryption errors sent from the station.

Rate, Signal and Status

Data rate and signal quality information appears on Station pages for clients. On Station pages for APs, this area shows network information such as system uptime.

Parent
Displays the system name of the device to which the client, bridge or repeater is associated. The entry [self] indicates that the device is associated with this AP.

Rate, Signal and Status (continued)

Current rate
Reports the current data transmission rate. If the station is having difficulty communicating with the AP, this might not be the highest operational rate.

Latest retries
Tally of requests to send (RTS) short and long data retries.

Next Hop
Displays the next station in the network toward this station. Only applies when repeaters are in use.

Operational Rates
The data transmission rates in common between the AP and the station.

Latest Signal Strength
Displays the current index of radio signal quality.

The following four fields appear on the Station page for AP's.

Stations Associated
Displays, by number and class, all stations associated with this AP.

Uptime
Displays the cumulative time the device has been operating since the last reset.

Software Version
Displays the version level of Aironet software on the device.

Announcement Packets
Tally of Announcement packets since the device was last reset.

Hops and Timing

Hops to Infra.
The number of devices between this station and the network infrastructure.

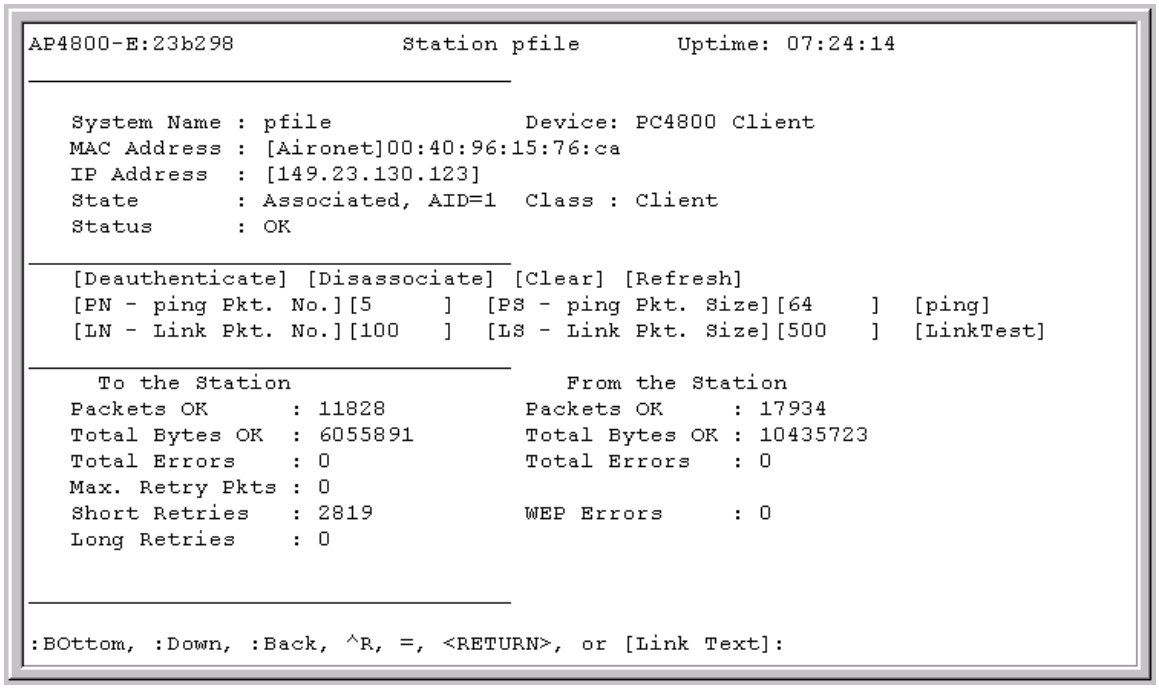
Activity timeout
Total time that can elapse after the AP's last data receipt before the AP presumes the client has been turned off. Default timeout is 32 seconds.

Communication over interface
The current network port over which the AP/Bridge is communicating with the station.

Echo packets
The link test sequence number. It tallies the total number of link test packets sent to this station.

Latest activity
Elapsed time in hours, minutes, and seconds since the station and the AP last communicated. All zeros means there is current communication.

Console Screen

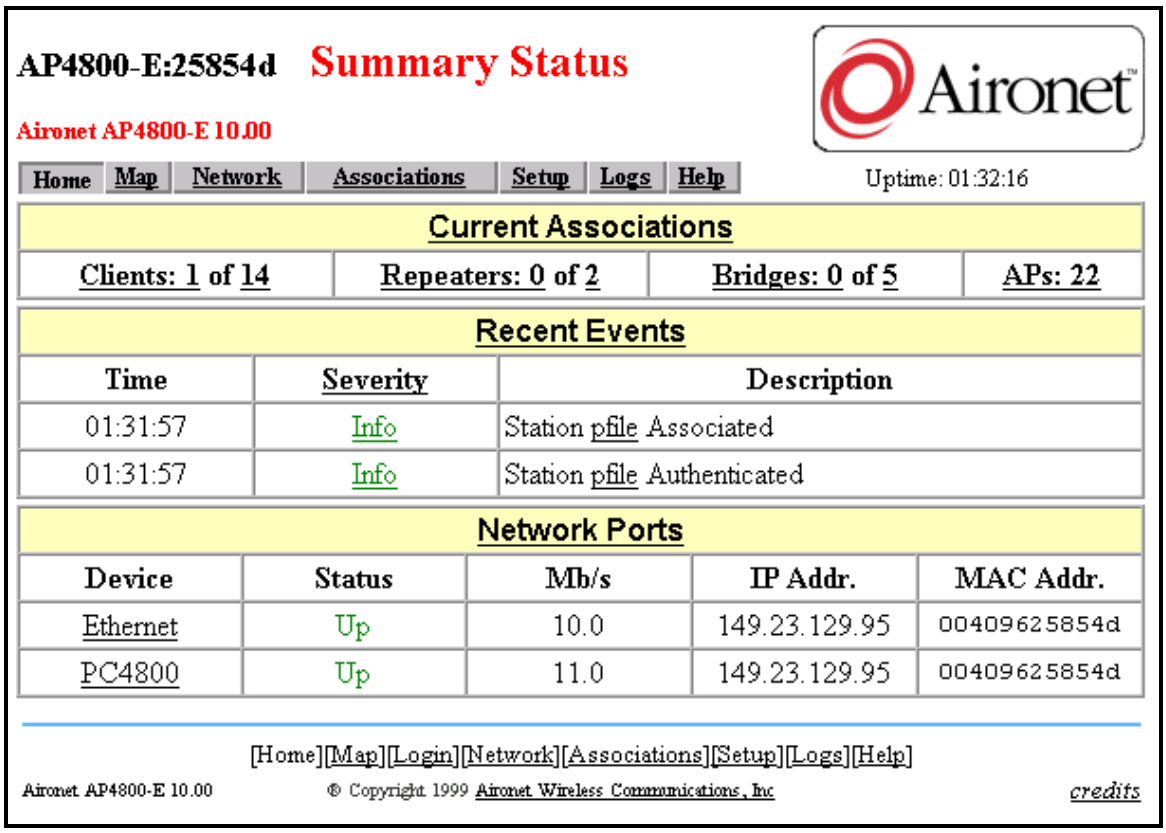

AP4800-E:23b298 Station pfile Uptime: 07:24:14
System Name : pfile Device: PC4800 Client
MAC Address : [Aironet]00:40:96:15:76:ca
IP Address : [149.23.130.123]
State : Associated, AID=1 Class : Client
Status : OK
[Deauthenticate] [Disassociate] [Clear] [Refresh]
[PN - ping Pkt. No.][5] [PS - ping Pkt. Size][64] [ping]
[LN - Link Pkt. No.][100] [LS - Link Pkt. Size][500] [LinkTest]
To the Station
Packets OK : 11828
Total Bytes OK : 6055891
Total Errors : 0
Max. Retry Pkts : 0
Short Retries : 2819
Long Retries : 0
From the Station
Packets OK : 17934
Total Bytes OK : 10435723
Total Errors : 0
WEP Errors : 0
:BOttom, :Down, :Back, ^R, =, <RETURN>, or [Link Text]:

Station - Console Screen Version

Summary Status

Navigation
Summary Status

Security
This home page is available to all users.



Summary Status Page

Overview
After the AP has been initially configured, this is the Home page that provides a summary of associated stations, system events and port status. The page also provides many links to pages with detailed information.

Associations

The top section notes the number of associated stations in each of four types: clients, repeaters, bridges and AP's. For each type, the boxes show the number of associated stations out of the total number of installed stations across the entire network. Each box is also a link to the Association Table page for the station type selected. For example, click on "**Clients: 1 of 1**" to see the Association Table page with only the clients displayed. Click on the header "**Current Associations**" to see the Association Table with all types displayed.

Events

The middle section lists the most recent network events. The title line "Recent Events" is a link to the Event Log page where you see stored events along with display filters and other related settings.

Time

The first column shows the time of the event expressed in system uptime or wall-clock time. The upper right corner of every page shows either wall-clock time (as configured in Time Server Setup) or the current system uptime expressed in the cumulative number of days, hours, minutes and seconds of operation since startup or reset.

Severity

This column notes the significance of the event. You can link to the Event Log Summary screen to see a tally of events at each security level.

Description

This column is a brief explanation of the event.

Ports

The bottom section of the page shows basic information on AP's network ports. The title line is a link to the Network Ports page that provides more information on data traffic through the ports.

Device

This column lists the wired and wireless port connections. Each listed device is also a link to the individual port page that provides complete information on port configuration and data statistics.

Status

Displays one of three possible operating states for the port:

Up

The port is operating properly.

Down

The port is not operating.

Error

The port is in operation but is presently in an error condition.

Mb/s

Maximum rate of data transmission in megabits per second. Use the individual port Hardware page to set data rates [Summary Status > Device/port > Set Properties].

IP Addr.

Internet protocol address of the device. Use the Express Setup page to assign or change IP address [Summary Status > Setup > Express Setup].

Ports (continued)

MAC Addr.
The Media Access Control (MAC) address is a unique identifier assigned by the manufacturer.

Console Screen

```
AP4800-E:25854d      [Aironet AP4800-E 10.00]       Uptime: 01:37:34


Associations
  [Clnts: 1] of 14   [Rptrs: 0] of 2   [Brdgs: 0] of 5   [APs]: 22


Events
    Time       Severity           Description


Network Ports
  Device       Status        Mb/s       IP Addr.         MAC Addr.
[Ethernet]         Up          10.0     149.23.129.95   00409625854d
[PC4800]           Up          11.0     149.23.129.95   00409625854d


Home - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]



:Back, ^R, =, <RETURN>, or [Link Text]:
```

Summary Status** - **Console Screen Version

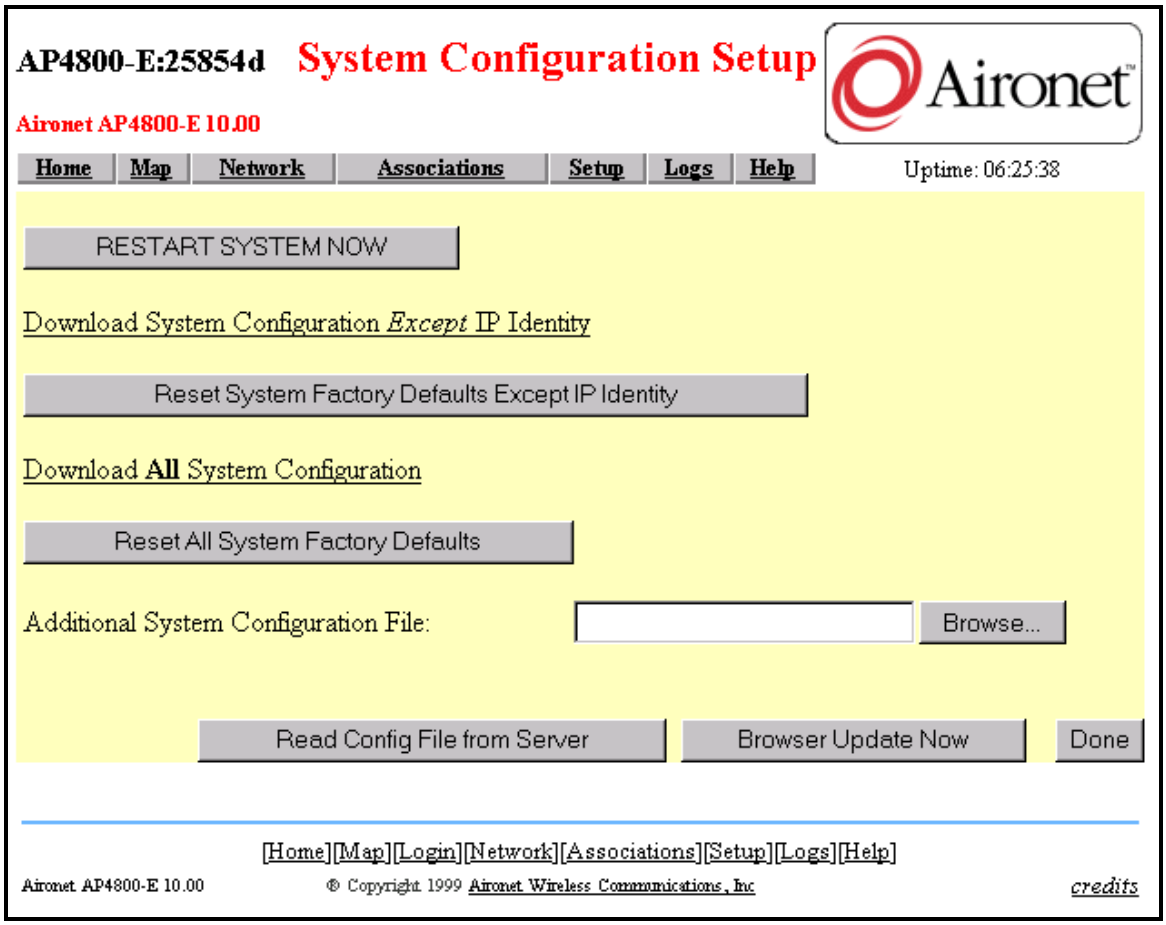
System Configuration Setup

Navigation

Summary Status > Setup > Services: Aironet Services > Aironet Services Setup > Manage System Configuration > System Configuration Setup

Security

Changes on this page require an Administrator with Firmware, Identity, and Write capabilities.



Manage Installation Keys Page

Overview

Use this page to restart the Access Point, reset the configuration settings to their factory defaults, and upload or download a system configuration to or from the Access Point.

Settings

Additional System Configuration File

Type the path and file name of the configuration file you want to load to the AP. Use the Browse button to select the file from a directory list. Click Browser Update Now to send the file to the AP.

Action Buttons

Several action buttons allow you to restart the Access Point, reset the configuration settings to their factory defaults, and upload or download a system configuration to or from the Access Point. If JavaScript is enabled on your web browser, confirmation popups will appear when you click the buttons.

Restart System Now

Click this button to restart the Access Point.

Download System Configuration Except IP Identity

Click this button to save the AP's configuration file, *minus* the AP's IP (Internet Protocol) Identity information, to your computer, or to any accessible drive.

Reset System Factory Defaults Except IP Identity

Click this button to reset all of the AP's settings, *except* the AP's IP Identity information, to their factory defaults. By not resetting the AP's IP Identity information to the factory defaults, you ensure that you will maintain Ethernet connectivity to the AP.

Download All System Configuration

Click this button to save the AP's configuration file to your computer, or to any accessible drive.

Reset All System Factory Defaults

Click this button to reset all of the AP's settings, *including* the AP's IP Identity information, to their factory defaults. If you reset the AP's IP Identity information to the factory defaults, you may lose connectivity to the AP.

Read Config File from Server

Click this button to send a configuration file from the server to the AP.

Browser Update Now

Click this button to send the configuration file you named in the Additional System Configuration File entry field to the AP.

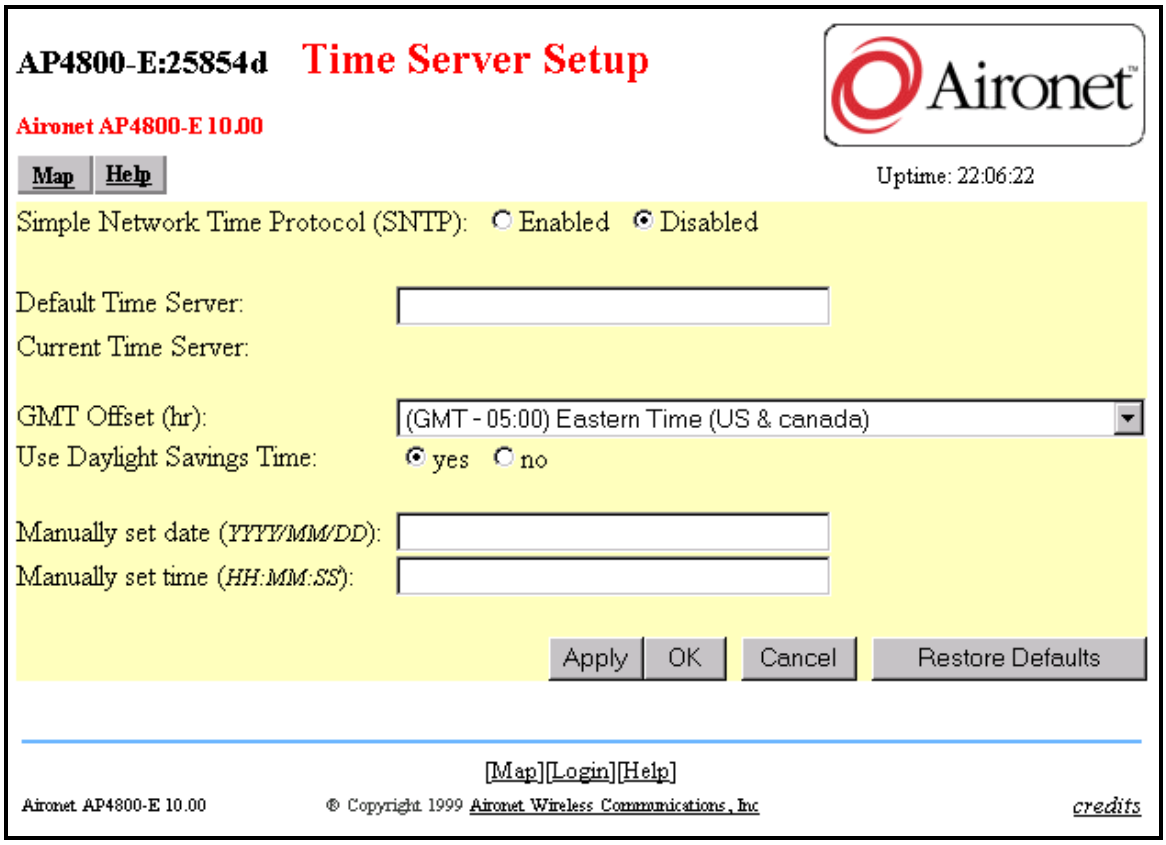
Done

This button sends you back to the Aironet Services Setup page.

Time Server Setup

Navigation
Summary Status > Setup > Services: Time Server > Time Server Setup

Security
Changes to this page require an Administrator with Write capability.



Time Server Setup Page

Overview
This page synchronizes this AP with the network's time server.

Settings

Simple Network Time Protocol (SNTP)
Enable or Disable SNTP to match the status of the network.

Default Time Server
Enter the IP address of the network's default time server.

Current Time Server
The IP address of the current network's default time server.

Settings, cont.

GMT Offset (hr)
From the drop-down options, select the time zone offset from Greenwich Mean Time.

Manually Set Date
Enter the current date to override the date provided by the server, or to enter a date if no server is available.

Manually Set Time
Enter the current time to override the time provided by the server, or to enter the time if no server is available.

Use Daylight Savings Time
Select as appropriate.

Action Buttons
This set of four action buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

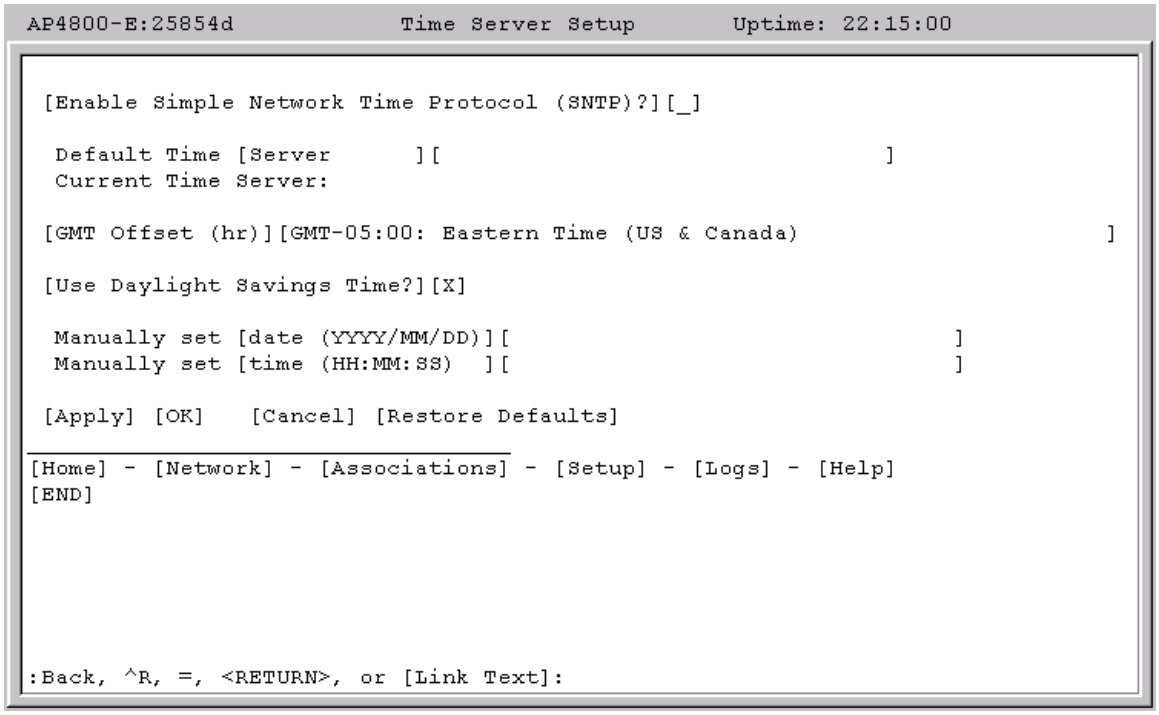
Apply
After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the main Setup page.

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen


AP4800-E:25854d Time Server Setup Uptime: 22:15:00
[Enable Simple Network Time Protocol (SNTP)?][_]
Default Time [Server][ ]
Current Time Server:
[GMT Offset (hr)][GMT-05:00: Eastern Time (US & Canada)]
[Use Daylight Savings Time?][X]
Manually set [date (YYYY/MM/DD)][ ]
Manually set [time (HH:MM:SS)][ ]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

Time Server Setup - Console Screen Version

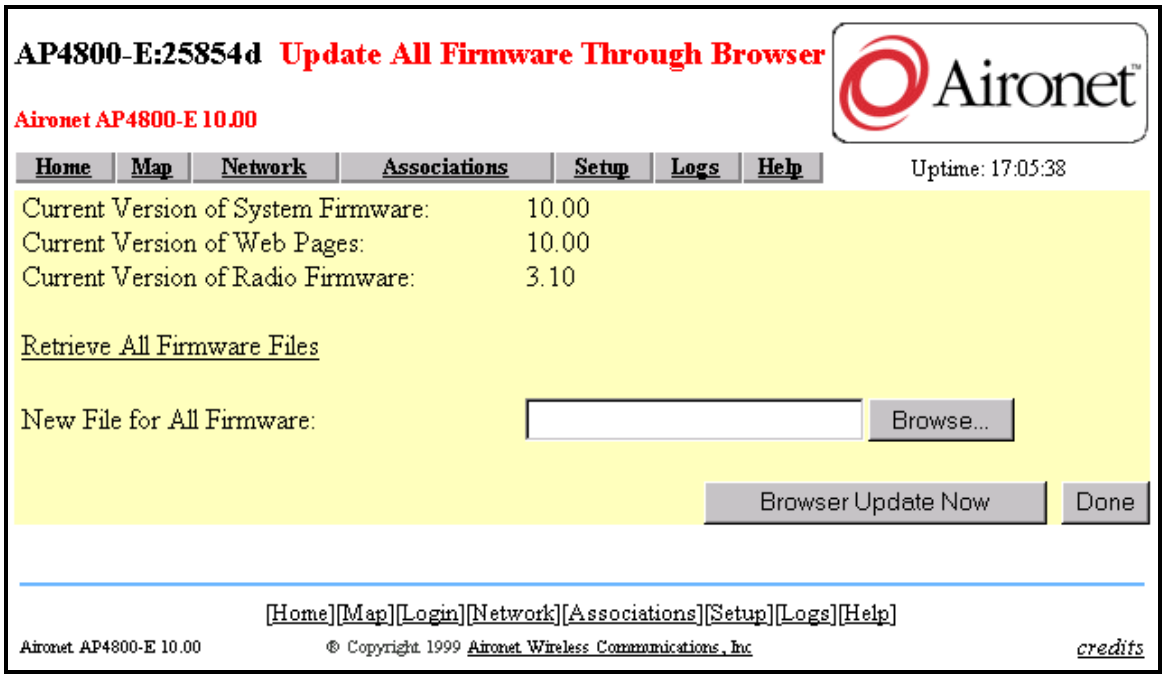
Update All Firmware Through Browser

Navigation

Summary Status > Setup > Services/Aironet Services > Aironet Services Setup > Fully Update Firmware: Through Browser > Update All Firmware Through Browser

Security

Changes to this page require an Administrator with Firmware capabilities.



Update All Firmware Through Browser Page

Overview

Use this page to simultaneously update the AP's system firmware, web pages, and radio firmware via your web browser. After making firmware updates on this page, the AP will automatically be re-booted to activate the new firmware.

Current Firmware Versions

This section shows three current firmware version levels:

System Firmware
Web Pages
Radio Firmware

Retrieve All Firmware Files

Click the underlined Retrieve All Firmware link to save the current System Firmware and Web Pages to a local hard drive or disk.

New File for All Firmware

Use this section to browse your hard drive or mapped network drives to find the new firmware file.

Action Buttons

Two buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing the Browser Update Now button, but not the Cancel button.

Browser Update Now

After you enter the file name for the new firmware, click **Browser Update Now** to load and install the new firmware. When the update is complete, the AP will automatically reboot.

Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the Aironet Services Setup page.

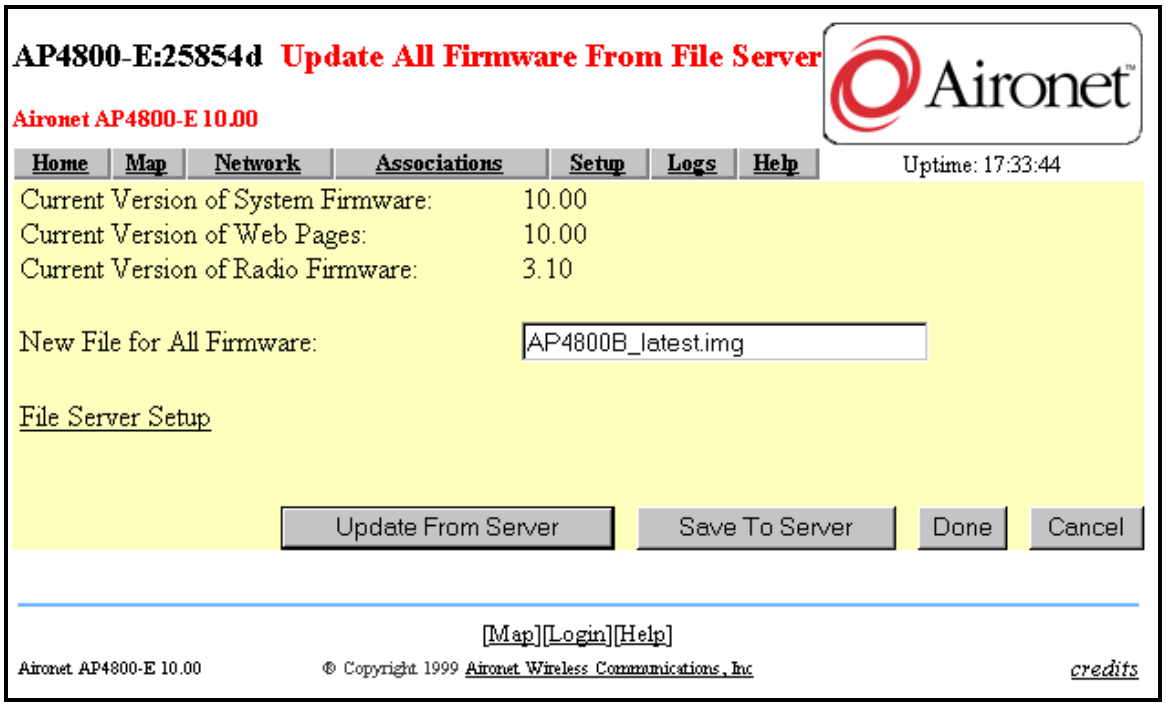
Update All Firmware From File Server

Navigation

Summary Status > Setup > Services: Aironet Services > Aironet Services Setup > Fully Update Firmware: From File Server > Update Firmware From File Server

Security

Changes to this page require an Administrator with Firmware capabilities.



Update Firmware From File Server Page

Overview

Use this page to update firmware from the file server. After making a firmware update on this page, the AP will automatically be re-booted to activate the new firmware.

Current Firmware Versions

This section shows three current firmware version levels:

System Firmware
Web Page
Radio Firmware

New File for All Firmware

Use this section to enter the new firmware file name. Enter the full file name.

File Server Setup

This link takes you to the FTP Setup page.

Action Buttons

Four buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after you click the Update From Server button, but not the Cancel button.

Update From Server

After you enter the firmware file name, click **Update From Server** to load and install the new firmware. When the update is complete, the AP will automatically reboot.

Save To Server

Click this button to save the System Firmware and web pages to your server.

Done

This button sends you back to the Aironet Services Setup page after updates and saves are complete.

Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values, and sends you back to the Aironet Services Setup page.

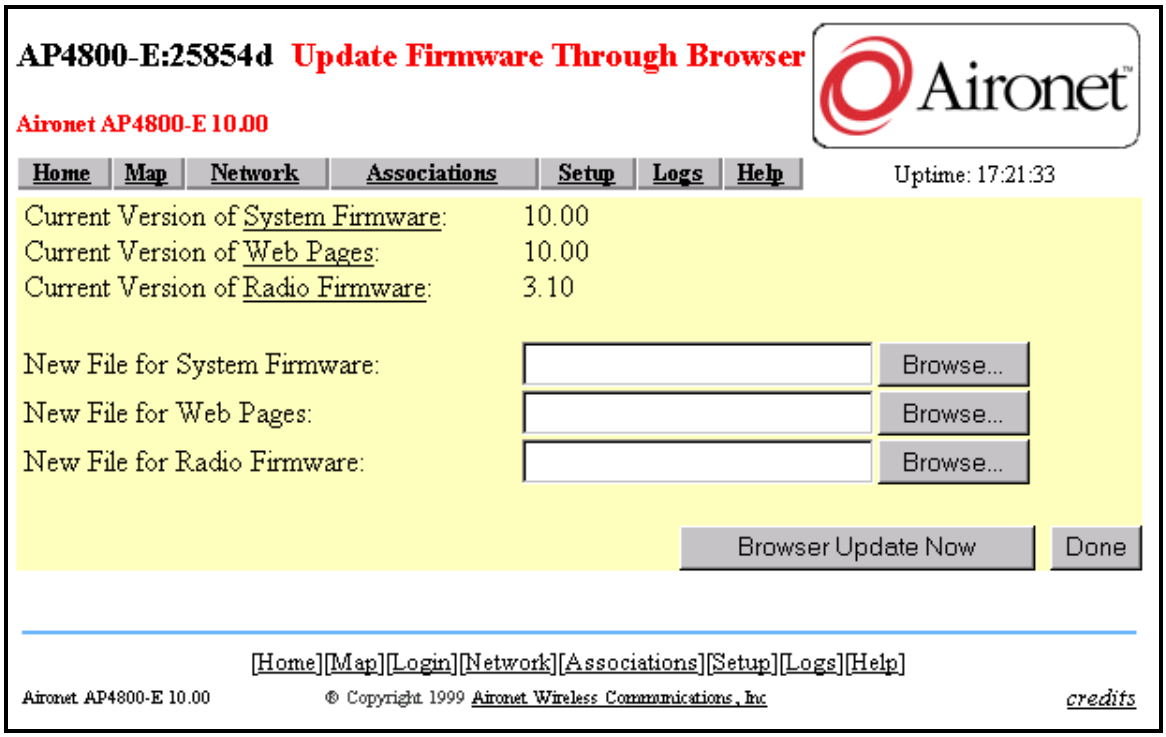
Update Firmware (Selectively) Through Browser

Navigation

Summary Status > Setup > Services: Aironet Services > Aironet Services Setup > Selectively Update Firmware: Through Browser > Update Firmware Through Browser

Security

Changes to this page require an Administrator with Firmware capabilities.



Update Firmware Through Browser Page

Overview

Use this page to update firmware via your web browser. After making firmware updates on this page, the AP will automatically be re-booted to activate the new firmware.

Current Firmware Versions

This section shows three current firmware version levels:

System Firmware
Web Page
Radio Firmware

Click the underlined Current Version links to save the current firmware and Web Pages to a local hard drive or disk.

New Firmware Files

Use this section to browse your hard drive or mapped network drives to find the desired new files. After you enter file names for the firmware to be updated, click **Browser Update Now**.

New File for System Firmware
New File for Web Pages
New File for Radio Firmware

Action Buttons

Two buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing the Browser Update Now button, but not the Cancel button.

Browser Update Now

After entering new values for all settings to be updated, press **Browser Update Now** to load and install the new firmware. When update is complete, the AP will automatically reboot.

Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the Aironet Services Setup page.

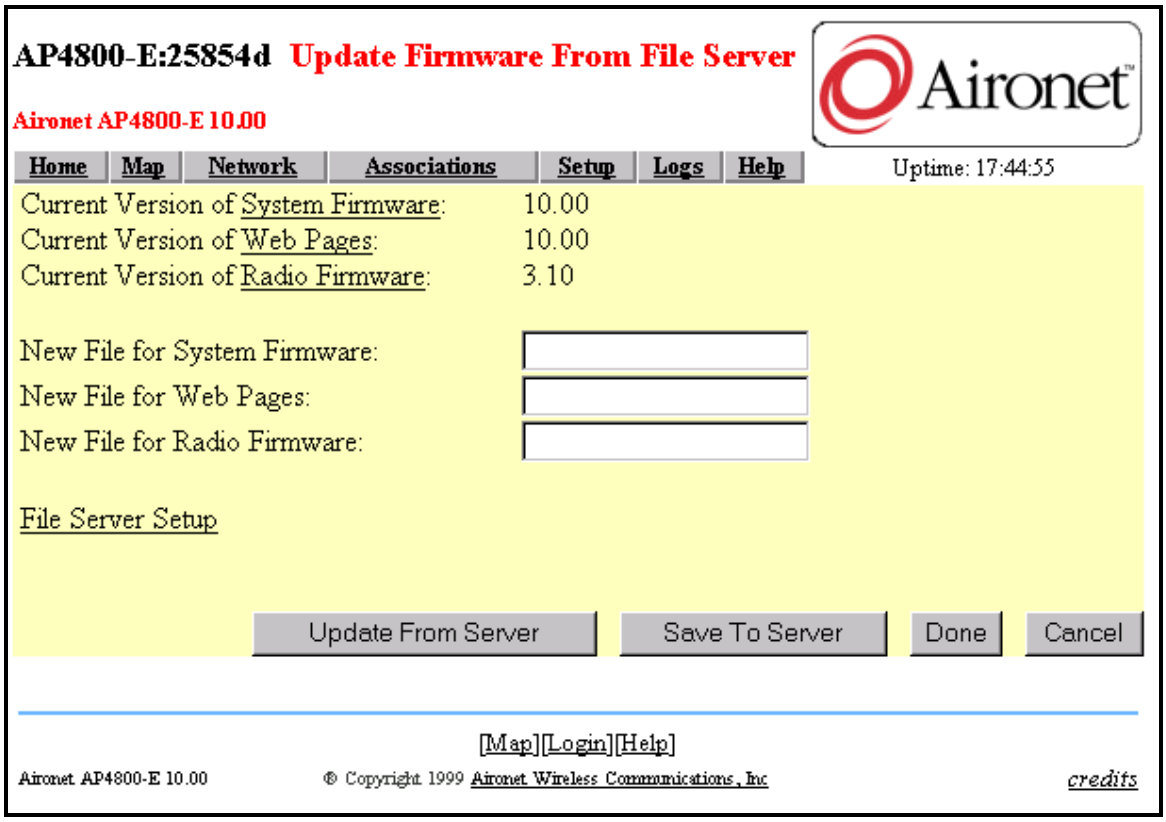
Update Firmware (Selectively) From File Server

Navigation

Summary Status > Setup > Services: Aironet Services > Aironet Services Setup > Selectively Update Firmware: From File Server > Update Firmware From File Server

Security

Changes to this page require an Administrator with Firmware capabilities.



Update Firmware From File Server Page

Overview

Use this page to update firmware from the file server. After making firmware update on this page, the AP will automatically be re-booted to activate the new firmware.

Current Firmware Versions

This section shows three current firmware version levels:

System Firmware
Web Page
Radio Firmware

Click the underlined Current Version links to save the current System Firmware and Web Pages to a local hard drive or disk.

New Firmware Versions

Use this section to enter the new firmware file names. Enter the full file names.

New File for System Firmware
New File for of Web Page
New File for Radio Firmware

File Server Setup

This link takes you to the FTP Setup page.

Action Buttons

Four buttons control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after you click the Update From Server button, but not the Cancel button.

Update From Server

After entering file names for the firmware you want to update, click **Update From Server** to load and install the new firmware. When the update is complete, the AP will automatically reboot.

Save To Server

Click this button to save the System Firmware and web pages to your server.

Done

This button sends you back to the Aironet Services Setup page after updates and saves are complete.

Cancel

This button cancels all changes to the settings, returns the settings to the previously stored values, and sends you back to the Aironet Services Setup page.

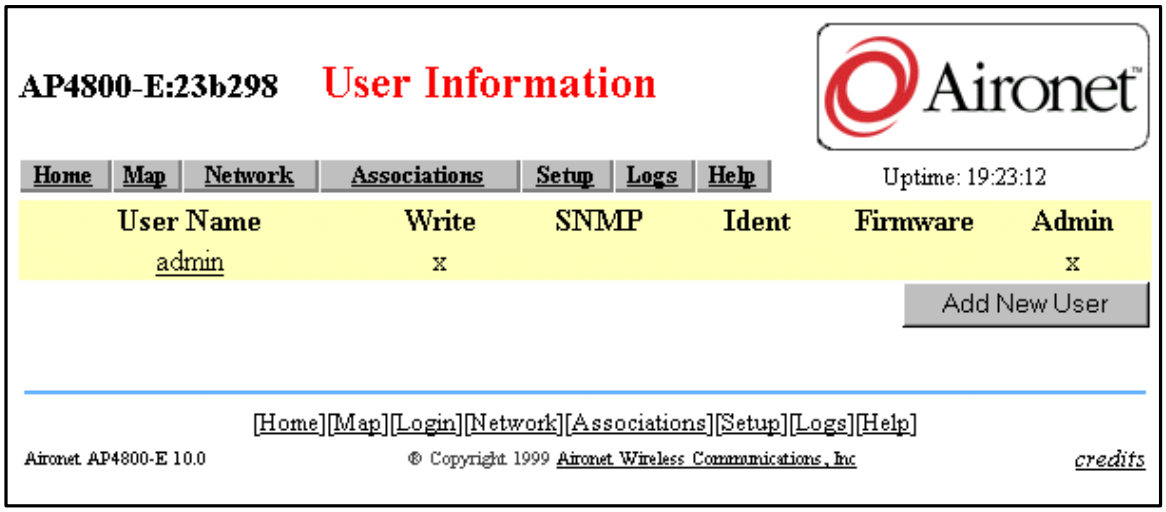
User Information

Navigation

Summary Status > Setup > Services/Security > Security Setup > User Information > User Information

Security

This page requires an Administrator with Write, Identity, and Firmware capabilities.



User Information Page

Overview

This page allows you to add users to the system, remove users from the system, and assign user capabilities. To enable system security, you use this page to add a user with Administrator, Identity, Firmware, and Write capabilities, and then go to the User Manager screen to enable the security features.

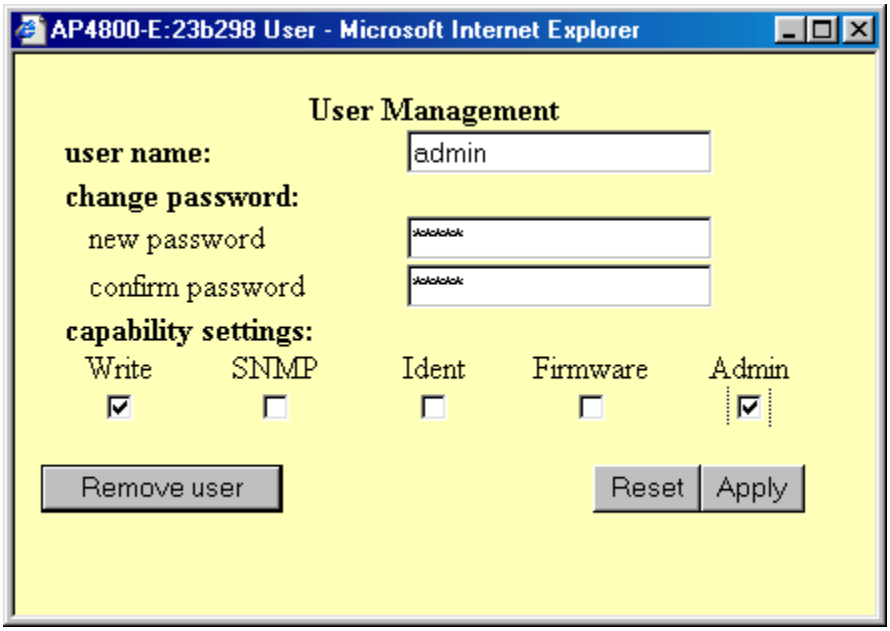
User List Headings

When you add users to the system, the user names and capabilities appear under the User List Headings. If a user has Write, SNMP, Ident, Firmware, or Admin capabilities, an X appears under those headings. When you click on a name in the user list, the User Management window appears. You use the User Management window to change user capabilities or remove users from the system.

Action Buttons

Add New User

Use this button to add a user to the system and assign capabilities to the user. When you click this button, the User Management window appears:



Add New User Page

You enter a user name, password, and password confirmation in the name and password boxes. You click the capability boxes to assign capabilities.

Remove User

Use this button to remove the user from the system.

Reset

Use this button to reset all boxes to their currently saved values, clearing any changes you have made.

Apply

Use this button to add the user name, password, and capabilities to the system.

Capability Settings

Write

Allows the specified user to change system settings. When you assign Write capability to a user, the user also automatically receives Admin capability.

Capability Settings (continued)

SNMP
Designates the specified user name as an SNMP community name. The user will use this SNMP community name to perform SNMP operations. SNMP operations performed by the user will be restricted according to the user's assigned capabilities.

The User Manager does not have to be enabled for SNMP communities to operate correctly.

Ident
Allows the specified user to change the AP's identity settings (MAC address, IP address, and SSID). When you assign Ident capability to a user, the user also automatically receives Write and Admin capabilities.

Firmware
Allows the specified user to update the AP's firmware. When you assign Firmware capability to a user, the user also automatically receives Write and Admin capabilities.

Admin
Allows the specified user to view all sensitive system screens and, with write capability, to make changes to the system.

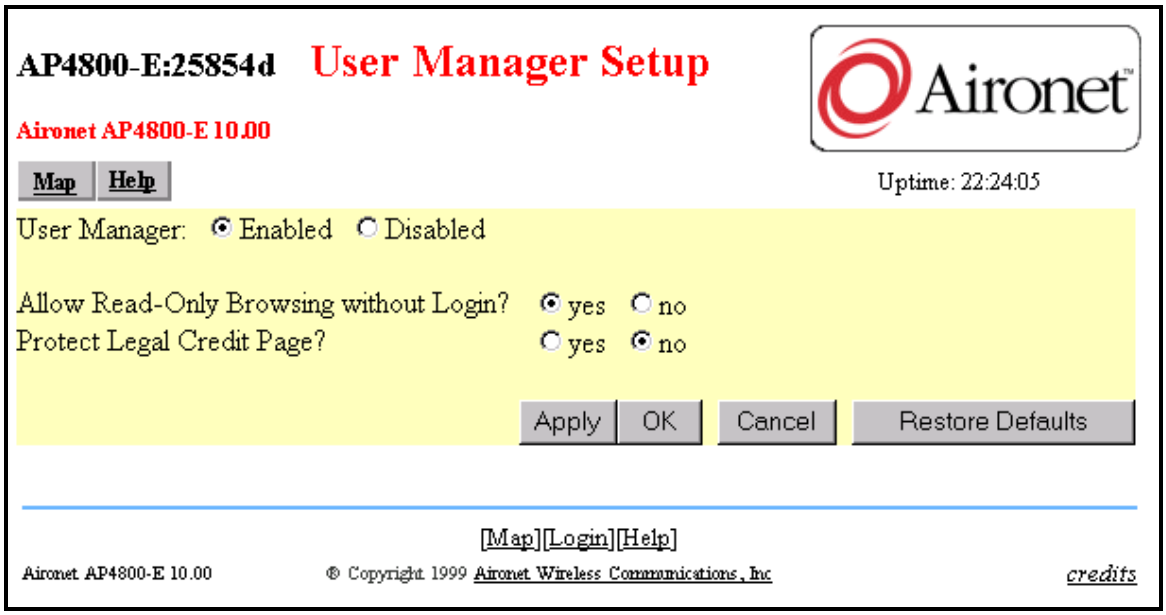
User Manager Setup

Navigation

Summary Status > Setup > Services/Security > Security Setup > User Manager > User Manager Setup

Security

This page requires an Administrator with Identity, Firmware, and Write capabilities.



User Manager Setup Page

Overview

This page allows you to turn on the system security features.

Settings

User Manager

Click Enabled to turn on system security. Click Disabled to turn off system security. To enable, an Administrator user with Write, Identity, and Firmware capabilities must already be defined.

Allow Read-Only Browsing without Login

Click yes to allow any user to view the AP's basic screens. Click no to restrict access to all of the AP's screens to only the users in the user list.

Protect Legal Credit Page

Click yes to restrict access to the Legal Credits page to users in the user list. Click no to allow any user to view the Legal Credits page.

Action Buttons

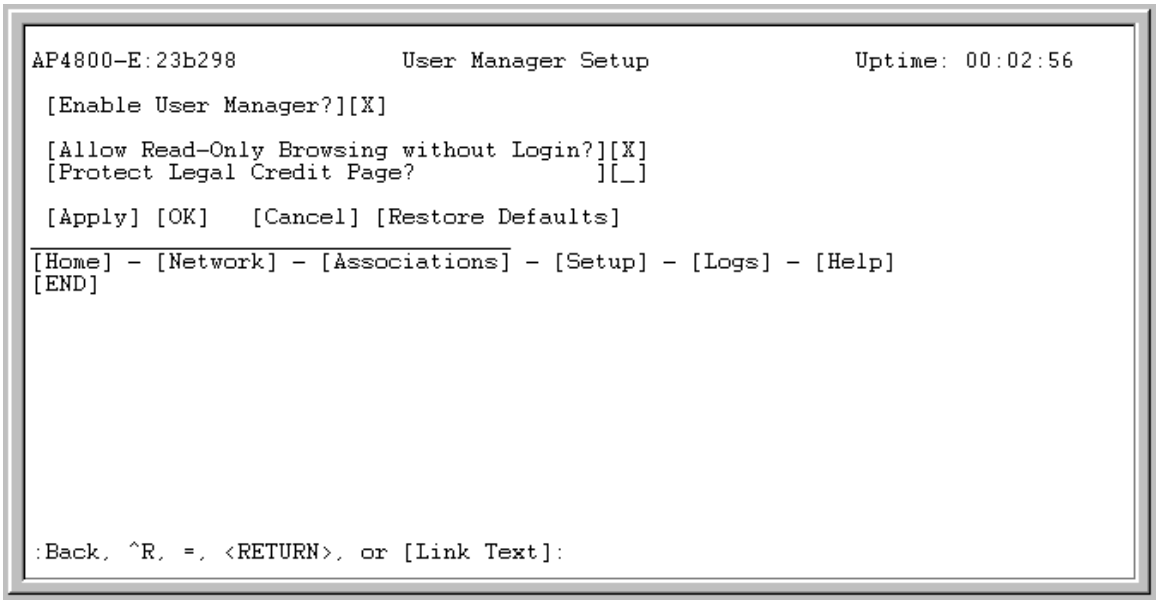
Apply
Click this button to apply changes to the system and remain on this page.

OK
Click this button to apply changes to the system and return to the Security Setup page.

Cancel
Click this button to return to the Security Setup page without making any changes to the system.

Restore Defaults
Click this button to change all settings on this page back to the factory default settings.

Console Screen

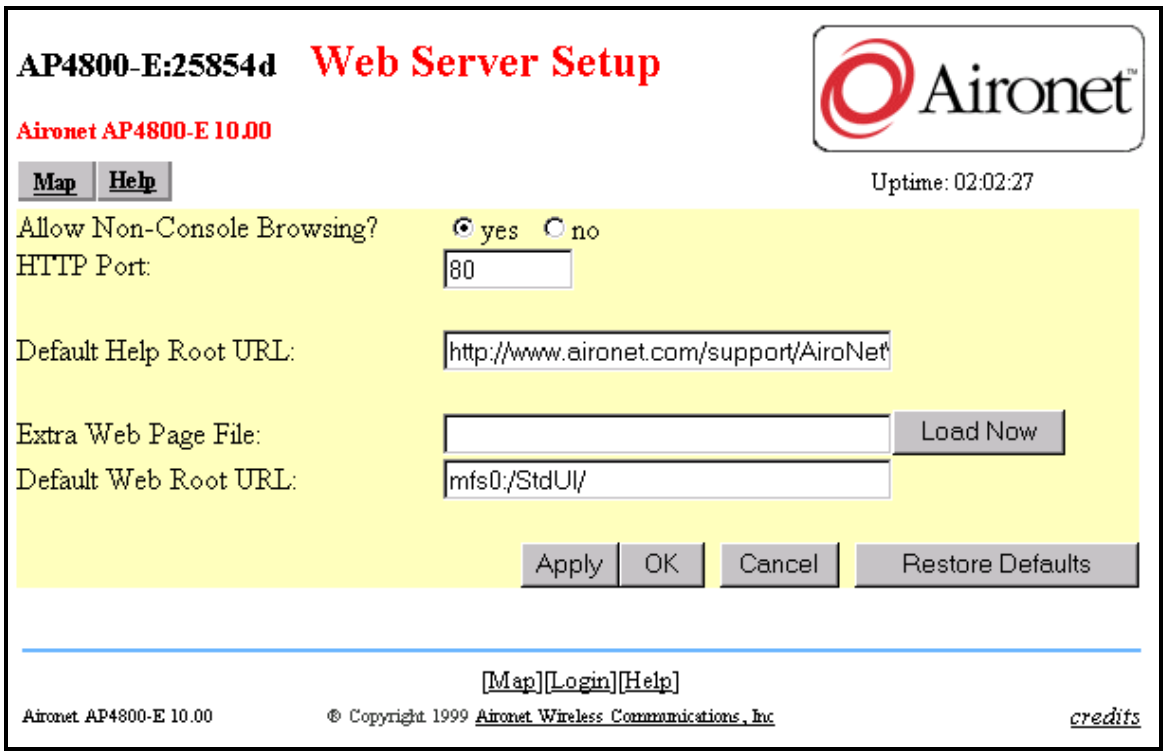

AP4800-E:23b298 User Manager Setup Uptime: 00:02:56
[Enable User Manager?][X]
[Allow Read-Only Browsing without Login?][X]
[Protect Legal Credit Page?][_]
[Apply] [OK] [Cancel] [Restore Defaults]
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]
:Back, ^R, =, <RETURN>, or [Link Text]:

User Manager Setup - Console Screen Version

Web Server Setup

Navigation
Summary Status > Setup > Services: Web Server > Web Server Setup

Security
Changes to this page require an Administrator with Write capabilities.



Web Server Setup Page

Overview
The Default Help Root URL specifies the location of the help files. All other setting and entries would only be used in applications with custom-tailored web systems for control of AP's.

Settings

Allow Non-Console Browsing?
The value must be set to "Yes" to use the graphical user interface of this browser software. If set to "No", only the console port and telnet are available for administration.

HTTP Port
This setting determines the port on which your AP will provide web access. Use the port setting provided by your System Administrator.

Settings, cont.

Default Help Root URL

This entry tells the system where to find the help files. The Help link on each page of this program provides direct access to context-sensitive user assistance. The online help files are provided on the supplied CD-ROM along with the electronic files for this Technical User's Guide. As part of software installation, the help files must be copied from the CD-ROM to the Default Root URL, and the path to the Default Root URL entered in this field. Here are some possible options for help file locations:

Aironet

Aironet maintains a website (www.aironet.com) to allow internet access to system help. This location does not require the user to copy or move any help files. While this location requires web access to Aironet for every occasion of needing online help, it offers the benefit of the most
up-to-date information.

File Server

On multi-user networks, the help files can be placed on the network file server. For this option, enter the full directory URL.
Examples:
[system name]\[directory]\…\AironetHelp

CD-ROM drive

For occasional access, the Aironet CD-ROM can be left in the CD-ROM drive on the system running the network. For this option, enter the drive letter and file name in this field.
Examples:
With Microsoft Internet Explorer or Netscape, enter
file:///[CD-ROM Drive Letter]:\AironetHelp

Hard Drive

If you choose to copy the help files to a directory on a hard drive of a connected station, enter the full directory URL.
Examples:
With Microsoft Internet Explorer or Netscape, enter
file:///[Drive letter]:\[folder or subdirectory]\AironetHelp

Extra Web Page File

For use by customers with alternative web-based network control systems.

The Load Now action button tells the Access Point to display the extra web page file immediately.

Default Web Root URL

For use by customers with alternative web-based network control systems.

Action Buttons

These action buttons, except for Load Now, control settings. If JavaScript is enabled on your web browser, a confirmation popup will appear after pressing any button, except the Cancel button.

Load Now

Click Load Now to immediately display an extra web page file.

Action Buttons (continued)

Apply
After entering new values for settings, press APPLY to activate the new settings. The browser will remain on this page.

OK
This button both applies the new settings and moves the browser back to the main Setup page.

Cancel
This button cancels all changes to the settings, returns the settings to the previously stored values and redirects the user back to the main Setup page.

Restore Defaults
Press to change all settings on this page back to the factory default settings.

Console Screen

```
AP4800-E:25854d          Web Server Setup        Uptime: 22:28:19

 [Allow Non-Console Browsing?][X]
  HTTP [Port                 ][80      ]

  Default [HelpRoot
URL][http://biff.aironet.com/support/AiroNetWorks/Enterprise/helpfiles]

 [Extra Web Page File  ][                                ]  [LoadNow]
  Default [WebRoot URL ][mfs0:/StdUI/                    ]

 [Apply] [OK]   [Cancel] [Restore Defaults]
_____________________________
[Home] - [Network] - [Associations] - [Setup] - [Logs] - [Help]
[END]









:Back, ^R, =, <RETURN>, or [Link Text]:
```

Web Server Setup - Console Screen Version

Glossary

10Base-T
Ethernet network operating at a communication speed of 10 Mbps over twisted-pair cable.

100Base-T
Ethernet network operating at a communication speed of 100 Mbps over twisted-pair cable.

ANSI
American National Standards Institute

AP (Access Point)
A station that connects a wired network with wireless client stations.

"awc0"
The term "awc0" (Aironet Wireless Communications port #0) is part of Aironet's naming convention for the radio port on the AP.

Address Resolution Protocol (ARP)
The protocol used to obtain the physical address (MAC address) when only the logical address (IP address) is known.

Adopt Primary Port Identity
Indicates whether a network port adopts the settings of the Primary Port (MAC and IP addresses).

AID
Association ID. Assigned by an AP to a station with which it is associated.

Associated
A station is configured properly to allow it to wirelessly communicate with the AP.

BOOTP
Boot Protocol. A protocol concerned with the assignment of IP addresses from a control server.

Basic Rate
Allows transmission at this rate for all packets, both unicast and multicast.

Baud Rate
The rate of data transmission expressed in bits per second. Pertains to the serial console port.

Beacon Period (Kusec)
The amount of time in Kusecs (one Kusec equals 1,024 microseconds) between radio beacons from the AP to its client stations.

Boot Block Version
Indicates the version level of the boot block software on the radio's network interface card.

Boot Server
A BOOTP or DHCP server which controls the IP address assigned to the AP, as well as other functions.

Bridge
A station that connects two wired networks together via a wireless network.

Broken
This indicates network port failure, either Ethernet or radio.

Management Information Base (MIB)
The database of named SNMP objects on the AP.

Browser
Software to allow viewing of web pages. Examples are Microsoft Internet Explorer and Netscape Navigator.

Byte
A set of eight bits of information represented in ones and zeros. Also called an octet.

Cancelled AID
Packets dropped by a repeater because it roamed to a different parent during a retransmission attempt. The AID (association ID) is assigned by an Access Point to a station with which it is associated.

Cancelled Assoc.
Lost packets dropped due to a station's loss of association with the AP or a repeater's loss of association with its parent.

Class
Identifies the type of station associated with the AP. Station types include AP, Bridge, Br Host (Bridge Host), Bridge-R (Bridge-Root), Client, Infra (Infrastructure), Mcast (Multicast), and Repeater.

Client
A station that is wirelessly connected to an AP or Bridge.

Current IP Subnet Mask
The IP subnet mask currently assigned to or used by the station.

Cyclic redundancy check (CRC)
A method of checking for errors in a received packet.

DHCP
The Dynamic Host Configuration Protocol provides for automatic management of IP addresses by a server. The DHCP will lease and reclaim IP addresses based on set time periods. It is a more automated version than BOOTP.

DHCP Minimum Lease Duration (min)
The shortest amount of time the AP will accept for an IP address lease. Leases shorter than this are ignored.

DHCP Multiple-Offer Timeout (sec)
The length of time the AP will wait to receive a response when there are multiple DHCP servers.

DHCP Requested Lease Duration (min)
The length of time requested by the AP for an IP address lease from your DHCP server.

Data Beacon Rate (DTIM)
This setting, always a multiple of the beacon period, determines how often the beacon contains a traffic indicator map (TIM). The TIM alerts stations in sleep state to stay awake long enough to receive their data frames.

Data Rates (Mb/sec)
The range of data transmission rates supported by a device, measured in megabits per second.

Default Help Root URL
The location of the AP's help files.

Default Web Root URL
The location of the AP's website-related files.

Domain Name Server
Network server that translates text names to IP addresses.

Domain Name System (DNS)
Provides names for computers using alphanumeric characters instead of the numbers IP addresses use. Maintains a database of the host alphanumeric names and their corresponding IP addresses.

Domain Suffix
The portion of the full name of a station in the IP domain which will be trimmed for display purposes.

Duplicate Packets
Packets that were received twice because an acknowledgement got lost and then the sender retransmitted the packet.

Ethernet
The most widely used wired local area network. Ethernet uses carrier sense multiple access (CSMA) to allow computers to share a network, and operates at 10, 100, or 1000 Mbps, depending on the physical layer used.

FTP (File Transfer Protocol)
A method for sending and receiving files using an ID and password between stations in a network.

File Server
A repository for files so that a local area network can share files, mail and programs.

Filtered Packets
Packets that were stopped or screened by the filters set up on the port.

Firmware
Software that is programmed on a memory chip and kept in a computer's semipermanent memory. Also, a security capability that can be assigned to a user.

Flow Control
The way that information is sent between pieces of equipment to prevent loss of data when too much information arrives at the same time on one machine.

Fragmentation Threshold
The size at which packets will be fragmented, and transmitted a piece at a time instead of all at once. The setting must be within the range of 64 to 2312 bytes.

Gateway
A device that connects two otherwise incompatible networks together.

GMT Offset
The time zone offset from Greenwich Mean Time, measured in hours.

Identification
Security rights that allow the specified user to change the AP's identity settings (MAC address, IP address, and SSID).

IEEE
Institute of Electrical and Electronic Engineers

".ini" file
A text file consisting of names of system objects and their values. Often accessed during system start-up.

Infra. (Infrastructure)
The wired Ethernet network.

IP Address
The Internet Protocol (IP) address of a station.

IP Subnet Mask
The number used to identify the IP subnetwork, indicating whether the IP address can be recognized on the LAN or if it must be reached through a gateway.

Installation Keys
The AP's firmware licenses, issued by Aironet.

LLC (Logical Link Control)
Indicates that a protocol is IEEE 802.2 compliant.

Lifetime Exceeded
Fragmented packet is dropped because it took too long to receive or transmit the next fragment.

MAC Address
The Media Access Control (MAC) address is a unique serial number assigned to a networking device by the manufacturer.

Max. Mb/s
Maximum rate of data transmission in megabits per second.

Max. RTS Retries
The maximum number of times the AP will issue a Request to Send before stopping the attempt to send the packet from the radio port.

Max. Data Retries
The maximum number of attempts to send a packet before giving up or attempting to reassociate.

Max Retry Packets
The number of times Requests to Send (RTS) reached the maximum retry number.

Multicast
A MAC address that specifies a set of nodes within the overall network. Examples of multicast destinations could include bridges and Novell stations.

Multicast packets
The number of packets received that were sent as a transmission to a set of nodes.

Name Server
An abbreviated name for Domain Name Server.

Overrun Packets
Packets that were discarded because the AP had a temporary overload of packets to handle.

PC4800
The radio port of the AP.

Packet CRC Errors
Cyclic redundancy check errors that were detected in a received packet.

Packet Forwarding
The packet-forwarding capability of the port, either "Enabled" or "Disabled."

Packet WEP Errors
Encryption errors.

Parent
The name of the station to which the client, bridge, or repeater is associated.

Parity
An error-detecting process based on the addition of a parity bit to make the total number of bits odd or even.

Primary Port
The network interface which determines the AP's MAC and IP addresses for most system administration purposes. The primary port of this AP is usually the network port.

RIP
Routing Information Protocol.

RTS Threshold
The packet size at which the AP will issue a Request to Send before sending the packet. Range: 0 – 2312.

Radio Channel
The frequency at which the radio operates. The factory setting for Aironet wireless LAN systems is Radio Channel 6, transmitting at 2437 MHz.

Radio Data Encryption (WEP)
The IEEE-802.11 standard data encryption system.

Radio Service Set ID (SSID)
A unique identifier that stations must use to be able to communicate with an AP. The SSID can be any alphanumeric entry up to a maximum of 32 characters.

Repeater
A station (typically another AP) that forwards data from a client station to another AP.

SNMP (Simple Network Management Protocol)
The basic communication method between network management applications and management agents.

SNMP Trap Destination
The IP address of the SNMP management station.

SNMP Trap Community
The "password" that grants an AP communication access with an SNMP management program.

SW Xon/Xoff
The ASCII control characters to resume or stop the transmission of data.

SNTP
Simple Network Time Protocol

Stop Bit
The signal to the computer to pause for an interval at the end of the every character. Sent over the RS-232 (console) port.

System Description
The systems device type as listed at the bottom of each web page.

System Name
This is the name of the system that appears in the titles of browser pages.

TFTP (trivial file transfer protocol)
A slower, low-security file-transfer protocol that requires no user name or password.

Telnet
The method and program that allows a user to access a remote computer from a host computer as if the host user were at the remote computer's console.

Total Retries
Tally of the number of retries occurring through a port.

Transmit Power
The power level of radio transmission.

Unicast packets
Packets transmitted in "point-to-point" communication.

Web Server
A computer that delivers Web pages. Every Web server has an IP address and possibly a domain name. For example, if you enter the URL *http://www.aironet.com/index.html* in your browser, this sends a request to the server whose domain name is *aironet.com*. The server then fetches the page named *index.html* and sends it to your browser. (Reprinted with permission from *internet.com*.)

WEP
Wired Equivalent Privacy; the IEEE-802.11 standard data encryption system.

Write
Security right that allows the specified user to change system settings.

4800B Series Access Point Specifications

General	
Data rates	1, 2, 5.5, and 11 Mb/s
Antenna	2 integrated (standard); 1 or 2 RTNC (optional)
Range	@ 1 Mb/s: 1,800 ft open environment; 350 ft indoors @ 11 Mb/s: 400 ft open environment; 100 ft indoors
Certifications	FCC Class B, FCC Part 15.247, Canada ICES Class B, RSS-139-1, RSS-210, ETS 300.328, CISPR 11/ CISPR 22 Class B, CE, UL, CSA. Call for additional information on use outside the US.
Operating channels	IEEE 802.11 compliant 11 channels (US, Canada); 13 channels (ETSI)
Simultaneous channels	Three (FCC, Canada, ETSI); one (Japan)
Network Information	
Network standard	IEEE 802.11 at all data rates
Network protocols supported	Complies with IEEE 802.3 and Ethernet Blue Book
Network operating systems supported	Win 95, 98, NT, CE; NetWare Client; LINUX
Local configuration	Direct console port (Serial EIA-232 DB-9 female)
Remote configuration	HTTP, Telnet, FTP or SNMP
Automatic configuration	BOOTP, DHCP
SNMP compliance	MIB I, MIB II
LED indicators	Status, Network Activity, RF Activity
Radio Information	
Frequency band	2400-2500MHz
Wireless medium	Direct Sequence Spread Spectrum (DSSS)
Modulation	BPSK@ 1Mbps QPSK@ 2Mbps CCK@ 5.5 and 11Mbps
Output power	30mW (US, Canada, ETSI) 10mW/MHz (EIRP, Japan)
Environmental Information	
Operating temperature	0°C to 55°C 32°F to 131°F
Humidity (non-condensing)	0 to 90%
Physical Characteristics	
Dimensions	6.3" x 4.72" x 1.45"(16cm x 12cm x 3.68cm)
Weight	Less than 1 lbs. (.46kg), excluding power supply

Aironet Technical Support

Use the following information to contact the Aironet Technical Support group:

Telephone: (330) 664-7903
Fax: (330) 664-7990
e-mail: techsupp@aironet.com

For additional product information and technical support, including the capability to download new firmware and drivers, use the Aironet web site at:

http://www.aironet.com

Safety Considerations

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. Aironet products meet the uncontrolled environmental limits found in OET-65 and ANSI C95.1, 1991. Proper operation of this radio according to the instructions found in this manual will result in user exposure that is substantially below the FCC recommended limits.

- Do not touch or move antenna(s) while the unit is transmitting or receiving.
- Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- Do not operate a portable transmitter near unshielded blasting caps or in an explosive environment unless it
  is a type especially qualified for such use.
- Do not operate radio or attempt to transmit data unless the antenna is connected, if not, the radio may be
  damaged.

Dipole Antenna

Always orient antenna such that it is at least 15 cm
(6 inches) away from your body.

High Gain Antennas

High-gain, wall-mount or mast-mount antennas are designed to be professionally installed and should be located at a minimum distance of 30 cm (12 inches) or more from your body. Please contact your professional installer, VAR, or antenna manufacturer for proper installation requirements.

Warning for Laptop User

In order to comply with the FCC RF exposure limits, it is recommended when using a laptop with a Wireless LAN Adapter Card, that the Card's integrated antenna should not be positioned closer than 5 cm (2 inches) from your body or nearby persons for extended periods of time while it is transmitting (or operating). If the antenna is positioned less than 5 cm (2 inches) from the user, it is recommended that the user limit exposure time.

Declarations of Conformity

Manufacturer's Federal Communication Commission Declaration of Conformity Statement

Model: AP4800B
FCC Certification Number:
LOZ102035

Manufacturer:

Aironet Wireless Communications, Inc.
3875 Embassy Parkway
Akron, OH 44333-8357
330-664-7900

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference, and

2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference. However, there is no guarantee that interference will not occur. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician.

Department of Communications—Canada

Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference - Causing Equipment Regulations.

Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

This device complies with RSS-210 of Industry of Canada. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

The device is certified to the requirements of RSS-139-1 for 2.4 GHz spread spectrum devices. The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations. For further information, contact your local Industry Canada office.

European Telecommunication Standards Institute

Statement of Compliance

Information to User

This equipment has been tested and found to comply with the European Telecommunications Standard ETS 300.328. This standard covers Wideband Data Transmission Systems referred in CEPT recommendation T/R 10.01.

This type accepted equipment is designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Declaration of Conformity

Aironet Model Numbers:
AP4810B, AP4820B, AP4821B, AP4822B, AP4823B

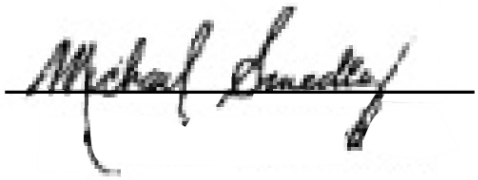
Radio CE Type Certificate Number:	BCL/EC/98-008/G
Radio Type Approval Examiniation Number:	R0170 SRD 3a
Application of Council Directive:	89/336/EEC
Application of Council Directive:	72/23/EEC

Standards which Conformity is Declared:

EN 55022 (B)
EN 55011 (B)
EN 50082-1
EN 60950

Manufacturer: Aironet Wireless Communication
3875 Embassy Parkway
Akron, OH 44333

The undersigned hereby declares the above specified equipment conforms to the above Directives and standards.



Michael Smedley
Director, Manufacturing Engineering
Aironet Wireless Communications, Inc.